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ABSTRACT

The second of a series of collections of papers, this volume consists of 13 articles. Included in the volume are the following articles: "The Problem Solving Models in CECs: Potential Applications and Potential Problems--A Technical Report," by Donald Melnychuk; "Time Use Measurement--A Potential Tool for Manpower Planning," by Andrew S. Harvey; "Social Services and Career Counselling," by Elizabeth McTavish; "Routes to Community Interaction," by Bill Law; "The Distinctive Contribution of Vocational Guidance," by William C. Bingham; "Research in the Development of the Assessment Component of Employment Counselling," by Philip J. Patsula; "Status of Student Personnel Services in New Brunswick Community Colleges," by Richard Harvey; "Life Skills Management--A Draft Guideline for Secondary Schools in Ontario," by Dorothy McPhedran; "Preparing Vocational Counsellors," by Bryan Hiebert; "The Third Wave in Test Evolution," by J. A. Gordon Booth, and "Occupational Research Problems of Occupational Analysis and Classification," by Margaret Roberts. (MN)

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The articles in this book are based on presentations made at the National Consultation on Employment Counselling Research, December 1, 2 and 3 1981 and the National Consultation on Vocational Counselling, January 26, 27 and 28 1982.

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Preface

The National Consultations on Vocational Counselling are intended to provide a face-to-face discussion among practitioners, researchers, administrators and policy makers. As an interchange it functions well but the delegates represent less than one percent of those actually engaged in the development and provision of vocational guidance services.

Many of those who have not attended have requested copies of the papers presented, and to meet this wider need it was decided to publish most of the papers presented at the National Consultation on Employment Counselling Research (December 1, 2, 3, 1981) and the National Consultation of Vocational Counselling (January 26, 27, 28, 1982). Future issues of this series will present papers delivered at the 1983 National Consultation Vocational Counselling (to be held January 25, 26 and 27) and also a few significant papers developed by or for the Canada Employment and Immigration Commission. Additionally, contributed papers that will serve to advance the practice of vocational counselling will be welcome.

D. Stuart Conger

The Problem Solving Models in the CECs: Potential Applications and Potential Problems A Technical Report

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Chapter 1

The Stages of Problem Solving

1.1 *Introduction*

It has always been easier to discuss the problem solving approach than to investigate it scientifically. It is a topic that has been the centre of research for many years in experimental psychology, education, and industry. In the last fifty years, many conceptions of the problem solving process have been proposed, ranging from various learning approaches to cognitive Gestalt approaches and, most recently, to the computer simulation and mathematical model approaches.

The various learning approaches (Gagne, 1969; Kendler and Kendler, 1962; Skinner, 1974) have focused mainly on the past experience of the individual as the most important variable in problem solving. All of the specific S-R learning theories assume that problem solving and thinking obey the general laws of conditioning as do simpler forms of learned behaviour. In developing the concepts of trial-and-error learning, operant conditioning, transfer, and S-R chains, certain theorists (Bandura, 1973; Maltzman, 1960; Skinner, 1974) have attempted to attain a scientific simplicity in the understanding of problem solving.

The cognitive Gestalt approaches (Bruner, 1957; Kohler, 1925; Maier, 1970) have maintained that it is the individual's perception of the situation which is of utmost importance in solving a problem. The cognitive Gestalt theorist reflects his/her understanding of problem solving in theoretical language as follows: the organism perceives, thinks about, and analyzes his/her environment; he/she forms tenable hypotheses; tries plausible leads, follows rules, reasons, encodes, deduces,

and makes predictive and calculated guesses. Such "mentalistic" concepts contrast sharply with the stimulus-response-reinforcement language of the learning psychologist.

The most recent entry in the understanding of problem solving has been the work of researchers in the area of computer simulation and mathematical models. Research (Feigenbaum and Feldman, 1963; Hunt, 1970; Newell and Simon, 1972; Restle and Davis, 1962) has shown that a computer may serve as a model of complex human behaviour. Hunt (1970) describes in detail his structure and process model of complex human behaviour, derived from and empirically supported by computer-simulation research. Heuristic programs such as Logic Theorist, General Problem Solver, and Perceiver have been written to simulate various types of human problem solving.

Historically, there have been three different areas dealt with in research on human problem solving. These are: 1) content, which is stressed by subject matter specialists and computer scientists, 2) cognitive processes, which have been investigated by psychologists, and 3) individual differences, which have been studied by test developers. To produce a unifying theoretical framework for these three aspects of study, Bandura (1977) has developed a deterministic theory of problem solving which he calls the structural learning theory.

Although the phenomenon of problem solving has long been of interest to experimental and cognitive psychologists, mathematicians, and computer scientists, its relevance to counselling has only recently been explored. The need for that exploration was first mentioned in counselling quarters by D'Zurilla and Goldfried (1971).

Much of the recent research in problem solving therapies has been done by Spivack and his colleagues. Their work (Siegel and Spivack, 1976; Spivack and Shure, 1974; Spivack, Flatt, and Shure, 1976) has been primarily in the area of emotionally disturbed children, adolescents, and institutionalized psychiatric patients.

Supplementing the research of Spivack and his colleagues have been a number of other studies (Arnkoff and Stewart, 1975; Bluchman, Olson and Hellman, 1976; Coche and Flick, 1975; Jacobson, 1977; Mendonca & Siess, 1976) which have addressed the usefulness of the problem solving approach in counselling.

A number of counsellors have included problem solving training in successful treatment packages (Haley, 1976; Mahoney and Mahoney, 1976).

The intent of this section is to bring together two previously distinct areas of research by delineating and clarifying problem solving skills

within the counselling context. In providing an outline of the problem solving literature, the five general stages as proposed by D'Zurilla and Goldfried (1971) will be used to analyze counselling as a problem solving process. The model divides problem solving into five definable stages (general orientation, problem definition and formulation, generating alternatives, decision making, and verification).

Even though research has demonstrated that there are wide differences among individuals in the approaches they actually use in solving problems (Buswell, 1956; Schroder, Driver and Streufert, 1967), there has been a high degree of agreement among theorists as to the general kinds of operations involved in effective problem solving (Gagne, 1964; Osborn, 1963; Parnes and Noller, 1972).

This five-stage model will be used to analyze counselling as a problem solving process. Each of the five stages will be examined independently rather than as a single homogeneous activity. Evidence (Johnson, Parrott and Stratton, 1968; Spivack and Shure, 1974) suggests that problem solving is a function of different activities.

1.2 *General Orientation to Problem Solving*

It has been known that an individual's general orientation or "set" in approaching a situation can greatly assist or hinder his/her response to that situation. A set or orientation can be defined as an inferred predisposition that influences an individual to behave in a certain manner, which may be either helpful or unhelpful, depending on whether it moves the individual toward or away from an effective procedure and solution. D'Zurilla and Goldfried (1971) believe that there may be an optimal problem solving set which encourages the development of independent problem solving behaviour. Within this optimal set are three distinct classes of behaviour: (a) accepting the fact that problematic situations constitute a normal part of life and that it is possible to cope with most of these situations effectively; (b) recognizing problematic situations when they occur; and (c) inhibiting the tendency to respond either on the first "impulse" or to do "nothing".

The following evidence suggests that people who express confidence in their ability to control aspects of their environment tend to be better problem solvers. Bloom and Broder (1950) found that successful problem solvers had greater confidence in their ability to solve the problems presented to them than did unsuccessful problem solvers. Lefcourt (1966) and Rotter (1966) also found similar evidence which indicates that an individuals' general expectation of being able to control their environment can greatly increase the probability that they will actually

attempt to cope with problems when they do, in fact, occur. The literature in therapy research (Frank, 1961; Goldstein, 1962) support the view that individuals who expect a positive behaviour change in therapy will greatly improve their chances for improvement during therapy.

Heppner (1978) has found no direct evidence to validate the second class of behaviours which states that certain people can identify problematic situations when they occur. Identifying and accurately labelling events within a problem is often difficult and very few researchers have thoroughly dealt with this issue.

The third class of behaviours as proposed by D'Zurilla and Goldfried (1971) consists of the individual not acting on impulse, or not avoiding the situation. There is much evidence which supports the notion that good problem solvers are not impulsive but systematically engage in several problem solving behaviours. Recent work by Harren, Kass, Tinsley and Moreland (1978) shows that some problem solvers, the so-called "rational style" problem solvers, show a time perspective that may not be found in "intuitive" or "dependent" problem solvers: that is, the rational type individual is able to project into the future to see decisions as a means-end chain, and to recognize the implications of earlier decisions for later decisions.

Bloom and Broder (1950) found that less successful problem solvers tend to be erratic, impatient, and to act on impulse. They also tend to get very frustrated when a solution to the problem is not found very quickly. Several authors (Osborn, 1963; Parnes and Noller, 1973) also report that the first stage in most reasoning processes is to stop and think. These authors have found that the individual who does not stop to reflect on the problem may not select the most appropriate and effective course of action. It seems that a certain time span must occur to allow for cue-producing responses to occur.

1.3 *Stage 1: Problem Definition and Stage 2: Problem Formulation*

The second stage of problem solving consists of defining all aspects of the situation in "operational" terms and formulating or classifying elements of the situation appropriately so as to separate relevant from irrelevant information.

Some studies have attempted to delineate behaviours that differentiate successful and unsuccessful problem solvers. Bourne, Ekstrand and Domenowski (1971) reviewed the following authors (Davis, 1966; Duncan, 1963) and found that the more information a person has about a problem, the easier it is to solve the problem. It also appears that successful problem solvers can operationalize vague elements and identify

relationships among environmental events that facilitate a more accurate understanding of the problem.

Simon and Barenfeld (1969) found that successful problem solvers do an extensive job of gathering all the information and facts about a problem as a first step. As well, successful problem solvers tend to translate unfamiliar terms into simpler, more concrete terms.

Studies of problem solving have shown that how a person interprets a problem determines the strategy that will be employed for solving it. People are unlikely to reinterpret a problem unless the initial interpretation suggests a strategy that clearly fails to solve the problem (Simon and Hayes, 1976).

An important part of the understanding process seems to be fitting a problem into an appropriate category (Hayes, Waterman and Robinson, 1977). Once a general category has been identified, it serves to establish a schema that guides further understanding of the information. In studies of problem solving, the most critical part of the solution often consists of correctly identifying the problem type.

Hepper (1978) states that to adequately define a problem, one could examine the elements relevant to at least three areas: (a) assessing oneself, one's behaviours, knowledge, emotions, and feelings relevant to the problematic situation, as well as the consequences of these events; (b) assessing one's environment relevant to the problematic situation; and/or (c) delineating the problematic situation, including events such as goals, expectations, and conflicts.

The industrial sector has used many techniques to facilitate the problem definition and formulation process. An inquiry method called the Inductive Teaching Program was developed by Karlins and Schroder (1967). The method requires the person to acquire relevant facts concerning a problem by asking various questions. The emphasis is to train the problem solver in exploring and inquiring. Crutchfield, Covington, and Davies (1966) developed a productive thinking program in which participants acquire skills in formulating problems. Participants are taught how to arrange facts into an orderly form, discriminate irrelevant facts and recognize gaps in available information.

1.4 *Stage 3: Generating Alternatives*

The third stage of problem solving involves generating a list of possible responses that may solve the problem. This may appear to be a very elementary task but the literature reveals that many interferences in this stage can create incompatible or restrictive responses.

Evidence has been found that suggests that individuals may not generate some alternatives because of the nature of the task. Colgrove (1968) found that the selection of stored information is not simply a function of an individual's past experiences, but rather one's ability to use past experiences. He also found that there is a difference between the ability of an individual and his/her performance. Some persons may have the ability to solve their problems but fail to find the proper alternative. Janke (1962) believes that this inability to emit an adequate response is caused when a person's first response serves as a cue which restricts other responses from developing (i.e. the original response becomes fixated). It is at this stage that small cues such as direct statements by the counsellor (e.g. "Be creative.") can influence and alter the problem solving ability of a person (Bourne, Ekstrand and Dominowski, 1971). It has also been found that a person's past experience can introduce incompatible or inhibitive response tendencies for solving a new task or problem (Schultz, 1960).

It is assumed that the wider the range of choices the problem solver has explored and considered, the greater the likelihood that a satisfying decision can be made. It is important for a counsellor to realize that before engaging in a search of alternatives that he consider the cost of engaging in the search, the probability of its proving successful, and the possible increase in expected utility that would result. The search for further alternatives is worthwhile only if the expected gain exceeds the expected cost (Pitz and Harren, 1980).

Mencke and Cochrane (1974) pursued the area of searching for alternatives and they hypothesized that participation in a career development workshop would increase the number of alternative occupations college students would consider. In fact, they found the reverse; fewer occupations were considered. Since the sample was predominantly junior and senior volunteers, they may not have seen themselves as having enough time to broaden their alternatives, but rather felt the pressure to narrow them. It may be that situational factors and the imminence of decision deadlines are important factors to be controlled. Moreover, it seems important to assess the developmental history of the person to determine what choices have previously been considered and discussed as viable options.

It has also been found that the number of alternatives generated by an individual may be reduced due to incompatible responses being evoked by stimuli often associated with problem solving. People who have personal problems seem to carry with them emotional elements. For example, Janis and Mann (1977) have shown that problem solving in-

creases anxiety and that anxiety interferes with "vigilant information processing". They propose that if the anxiety level becomes too high, the person will engage in various defensive avoidance behaviours. Consequently, counselling skills are needed to deal with the emotions aroused in the problem solver by the problem solving task.

One study (Mendonca and Siess, 1976) investigated the effects of problem solving training on indecisive and anxious college students. The main finding was that a combination of anxiety-management and problem solving training was effective and resulted in significantly greater gains than either method alone with respect to vocational exploratory behaviour, awareness of career plans, and problem solving behaviour. Within the theoretical framework of D'Zurilla and Goldfried (1971), it was concluded that vocational indecision as used in this study appears to be due to deficiencies in problem solving and execution of chosen alternatives.

Arnkoﬀ and Stewart (1975) reported that modeling and videotape feedback may facilitate processes such as information gathering in personal problem solving. These results are congruent with the earlier success reported by Sarason and Ganzer (1973) in the use of modeling to teach problem solving skills to delinquents.

A good deal of research has been done in the industrial and business sectors regarding the development of alternatives. The most familiar and widely-used method is Osborn's (1963) brainstorming technique. This method consists of four rules:

- (a) Withhold judgment while trying to generate alternatives;
- (b) Free wheeling is welcomed;
- (c) Quantity is wanted;
- (d) Combinations and/or improvements of suggestive alternatives are sought.

D'Zurilla and Goldfried (1971) present a great deal of research which suggests that all of these rules facilitate the generation of good alternatives.

Several other methods of facilitating the development of creative alternatives have been developed by the industrial sector. They include:

- (a) Attribute listing, which entails changing or transferring attributes;
- (b) Morphological synthesis, which is a process of identifying the possible dimensions and creating all the possibilities; and
- (c) The idea checklist, which is a list of questions intended to stimulate the nonobvious (Hepper, 1978).

1.5 *Stage 4: Decision Making*

The fourth stage of problem solving involves decision making which can be defined as the process of selecting one action from a number of alternative courses of action. From an employment counselling perspective, the goal of the decision making process is to help the individual engage in a series of behaviours that will increase the probability of the individual being satisfied with his or her decision as well as providing the opportunity to be successfully employed. D'Zurilla and Goldfried (1971) define the "goodness" of a decision as occurring when the decision maker reaches a solution involving the maximum number of positive consequences and a minimum of negative ones.

It is possible to distinguish between two general approaches which have been taken in the study of decision making, namely the descriptive and the normative models. The descriptive model concerns itself with the attempt to describe and predict the way in which individuals go about making decisions. The normative model, on the other hand, involves the specification of rules which one may follow in order to optimize the quality of decisions in specific situations as well as to improve one's general decision making ability (D'Zurilla and Goldfried, 1971).

Research in decision making initially emphasized two main properties influencing any decision making situation: (a) utility values or the anticipated reward value and (b) probability outcomes which may be objective or subjective. Objective probability outcomes are probabilities calculated on informational data, whereas subjective probability outcomes are the probabilities which individuals believe are their chances for success.

In the process of determining the "goodness" of any particular course of action, work on decision making has made extensive use of utility theory (Pitz and Harren, 1980). Based on the efforts of von Neumann and Morgenstern (1944) to describe mathematically the process of choice in economics and games, utility theory involves a means-end conceptualization of decision making. The utility model which most closely parallels human behaviour in problematic situations is one which involves a subjective estimate of the probability that each particular alternative will achieve any given outcome, as well as subjective determination of the value of the various outcomes. In training a person to improve his/her problem solving ability, the determination of the utility of a decision should be made in light of that individual's own values.

D'Zurilla and Goldfried (1971) have devised a decision making procedure that combines utility and probability theory with consequence

training. Thus, in addition to utility and probability estimates, clients are given a worksheet on which they consider the personal, social, long-term, and short-term consequences that are likely to follow each alternative.

With regards to seeking and processing information it has been found that the human being has a very limited capacity (Norman and Bobrow, 1975). Payne (1976) found that, as more information was made available, greater selectivity of information processing was exhibited by subjects. It appears that providing a person with more information may only mean that a smaller percentage of it is read or understood.

Svenson (1979) has reviewed several studies on information seeking in decision tasks. He concluded that increasing the number of choices induces less selectivity than does increasing the amount of information per choice. When there are many choices, the data suggest that the selectivity comes from eliminating some options before all of the information relevant to these options has been processed. This is true if the information is presented one attribute at a time (e.g., data about salaries for all occupations) rather than one choice at a time (all relevant information about a single occupation). In designing occupational information materials, it would be important to present all of the information for a single occupation and take steps to prevent a possibly relevant occupation from being eliminated from consideration before all of the information has been read.

Katz, Norris and Pears (1978) have found that selectivity of information processing depends to a large extent on personal factors. However, a number of studies have suggested that there are some important variables that are not related to personal interests and values in information processing. It has been shown that information is apt to be ignored if it is incompletely described (Vates, Jagacinski and Faber, 1978) or if it is related to some attribute that does not characterize all of the relevant outcomes or choices (Slovic and MacPhillamy, 1974).

Several studies have indicated the importance of prior information in determining how new information will be understood. Bransford and Johnson (1973) have shown that the way in which a person relates new information to previous knowledge will affect the interpretation of what is perceived. When a person cannot find any relevant relationship between information and prior knowledge, the information is difficult or impossible to understand. Schank and Abelson (1977) suggest that understanding information is based on "schemata", abstract structures that provide an organization for a person's knowledge.

The use of decision theory in studies of career decision making has

been provided by Gelatt and Clarke, (1967) and Kaldor and Zytowski, (1969). Jepson and Dilly (1974) have provided a thorough review and classification of these models and others. Although a number of authors have recommended the use of various aspects of the normative theory in career decision making, there seems to be little evidence that the recommendations have been acted upon. A further problem with existing models of career decision making that are based on decision theory is the absence of programmatic research designed to test either descriptive or normative aspects of the model (Pitz and Harren, 1980).

1.6 *Stage 5: Verification*

Verification is the final stage of the problem solving process and it is designed to assess the actual outcome of the chosen course of action so as to make self-correction possible. Without this crucial step, an individual may persist in the performance of an inappropriate course of action instead of finding out where the problem is and making corrections accordingly. To be maximally effective, the problem solver must take steps to obtain accurate information about the actual consequences of his/her chosen course of action so that he or she can determine whether the choice was, in fact, the "best" one (D'Zurilla and Goldfried, 1971).

The most relevant description of the verification stage of problem solving comes from the work of Miller, Galanter, and Pribram (1960). In conceptualizing the relationship between an individual's plans and actions, these researchers have proposed a process of evaluation which they label as a test-operate-test-exit (TOTE) unit. If an individual's actions match or are congruent with a given standard (i.e. the test), the individual stops or exits from these activities. Conversely, if the individual's actions are incongruent with a standard, the person continues to "operate" or perform the appropriate problem solving behaviours (Heppner, 1978).

A procedure for assessing decision making skills has been developed by Katz, Norris, and Pears (1978). Simulated Occupational Choice (SOC) is a structured interview technique that is offered as a diagnostic tool in career counselling and which may have potential as a technique for training decision making skills. The procedure has been introduced only recently, and both field work and experimental tests of the procedure are needed. SOC is concerned primarily with assessing the consistency with which a person can specify attributes of value in a career and use information about the likelihood of attaining those values.

Dixon, Heppner, Petersen, and Ronning (1979) assessed the effects of intensive problem solving training on outcomes related to counselling.

Dependent variables were generation of alternatives, decision making skill, and subject's perceptions of his/her problem solving skills. Results indicated that training did influence the quality of response but training did not increase the number of alternatives. Subjects participating in the workshop also described themselves as using fewer impulsive behaviours during problem solving than did nonparticipant controls.

Unfortunately, the majority of researchers have not examined the behaviours associated with this stage and there is little evidence to draw upon except for the three previous studies. Heppner (1978), however, believes that it is possible to make several best guesses as to relevant skills, the function of such skills for problem solvers, and ways those skills might be fostered. An analysis of these hypothetical evaluation behaviours reveals at least two skills: clients are able to identify the consequences of their actions and they are able to compare these actions to a standard. These skills seem to be functional in at least two ways: (a) they identify successful outcomes which are often cues for self-reinforcement; and (b) by delineating discrepancies or problem situations, cues are established for resuming the problem solving sequence.

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1. Davis, G.A.. Current status of research and theory in human problem solving. *Psychological Bulletin*, 1966, 66, 36-54.

Research is categorized according to whether solutions are reached by overt trial and error or covert trial and error. Davis maintains that those solutions which are described in terms of "insight" or "thinking" are, in fact, the results of covert trial and error. The two categories are dependent simply upon whether or not the subject can associate a particular outcome to each available response.

2. Dixon, D.N., Heppner, P.P., Petesen, C.H., & Ronning, R.R.. Problem-solving workshop training. *Journal of Counselling Psychology*, 1979, 26, 133-139.

Dixon et al assessed the effects of intensive problem solving training on outcomes related to counselling. Dependent variables were generation of alternatives, decision making skill, and subject's perceptions of their problem solving skills. Results indicated that training influenced the quality of response, but training did not increase the number of subjects' alternatives. Subjects participating in the workshop also described themselves as using fewer impulsive behaviours during problem solving than nonparticipant controls.

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3. Duncan, C.P.. Effect of instructions and information on problem solving. *Journal of Experimental Psychology*, 1963, 65, 321-327.

"Instruction" refers only to how encouraged the subjects were to turn switches on a light bulb machine in order to arrive at a solution. Information on how the machine worked was given to some subjects. An interesting conclusion is that thinking may slow solution times.

4. D'Zurilla, T.J., & Goldfried, M.R.. Problem solving and behaviour modification. *Journal of Abnormal Psychology*, 1971, 78, 107-126.

This classical paper reviews the problem solving research and theoretical literature which have relevance for problem solving in the counselling situation as well as suggests possible training or therapeutic procedures which may be employed to facilitate more effective problem solving. The paper does an excellent job of familiarizing the reader with the research literature.

5. Gagne, R.M.. Problem solving. In A.W. Melton (Ed.), *Categories of human learning*. New York: Academic Press, 1964.

Problem solving is productive learning which must be preceded by a variety of simpler forms of learning. It is based upon this transfer of training through the hierarchy and must be generalizable to a class of problems. Thus, for Gagne, it requires vertical transfer through the hierarchy as a necessary condition and horizontal transfer as proof of existence. "Instructions" in the experimental situation are vital to success and aspects of this topic are discussed.

6. Heppner, P.P. A review of the problem solving literature and its relationship to the counselling process. *Journal of Counselling Psychology*, 1978, 25 (5), 366-375.

The problem solving process within counselling was analyzed by extending a problem solving model proposed by D'Zurilla and Goldfried. Selected research from psychological, industrial, and counselling fields was used to delineate essential problem solving skills as well as hypotheses regarding techniques to develop such skills.

7. Jepsen, D.A., & Dilley, J.J.. Vocational decision making models. *Review of Educational Research*, 1974, 44, 331-349.

This paper outlines psychological decision theory; summarizes eight prominent vocational decision making models; compares and contrasts vocational decision making models on basic assumptions and fundamental concepts; and suggests applications of theory to theoretical decision types. Implications for research, theory, and practice are discussed.

8. Kendler, H.H., & Kendler, T.S.. Vertical and horizontal processes in problem solving. *Psychological Review*, 1962, 69, 1-16.

A research program was carried out to investigate how mediated S-R events aid the formation of problem solving chains. "Problem solving" is here restricted to the question of negative transfer. Horizontal processes refer to the linking of S-R units into a behavioral chain, vertical processes are the existence of simultaneously occurring independent chains. Of interest to the authors were the methods by which the implicit cue from one chain elicits a "correct" overt response from another chain.

9. Maltzman, I.. On the training of originality. *Psychological Review*, 1960, 67, 229-242.

Creativity is original behaviour valued by society and is therefore less feasible to study than originality. From Maltzman's S-R viewpoint, original responses are low in the response hierarchy, though they can be elicited, and once produced are reinforced. Indeed, "originality is more reinforcing than commonplace responding". Originality is non-specifically transferred, perhaps by means of intraverbal association. Productive and reproductive thinking differ only in their probability of occurrence. By implication, Maltzman considers them as contrasting examples of a single phenomenon.

10. Mendonca, J.D., & Siess, T.F.. Counselling for indecisiveness: Problem solving and anxiety management training. *Journal of Counselling Psychology*, 1976, 23, 339-347.

The authors investigated the effects of problem solving training on indecisive and anxious college students. The main finding was that a combination of anxiety management and problem solving training was effective and resulted in significantly greater gains than either method alone with respect to vocational exploratory behaviour, awareness of career plans, and problem solving behaviour. Within the theoretical framework of D'Zurilla and Goldfried (1971), it was concluded that vocational

indecision as used in this study appears to be due to deficiencies in problem solving and execution of chosen alternatives.

11. Newell, A., & Simon, H.A.. *Human problem solving*. New Jersey: Prentice-Hall, 1972.

Several decades of work by the authors in the field of information processing have resulted in this extensive discussion of a theory of problem solving. Some empirical studies are described (chess, symbolic logic, cryptarithmic) in which performance of thinking "or that subspecies of it called problem solving" is analyzed. Their approach to understanding and explaining thinking is through the model of information processing theory which is strongly oriented to content as well as to process. Their theory states that problem solving takes place by search in a problem space and much discussion is given to defining "problem space". The bibliography is valuable.

12. Parnes, S.J., & Noller, R.B.. Applied creativity: The creative studies project, pt. 4, personality findings and conclusions. *Journal of Creative Behaviour*, 1973, 7, 15-36.

This is the last of the reports of the initial two year program of the Buffalo Creative Studies Project. Drop-outs from the course were compared with those who completed. Among the many differences found was the intriguing one that the female drop-outs were significantly higher on measures of artistic creativity and that these reported disappointment in the lack of emphasis on creative activities. The authors suggest that consideration should be given to meeting the perceived needs of this group by some modification of the program.

13. Pitz, G.G., & Harren, V.A.. An analysis of career decision making from the point of view of information processing and decision theory. *Journal of Vocational Behaviour*, 1980, 16, 320-346.

Pitz and Harren are concerned with how humans process information in order to make decisions about their careers. They review theories of how people ought to make decisions, and survey the relevant empirical studies from cognitive psychology. They evaluate those attempts that have been made to apply formal decision theory to career decision making.

14. Restle, F., & Davis, J.H.. Success and speed of problem solving by individuals and groups. *Psychological Review*, 1962, 69, 520-536.

A statistical model was developed to use problem solution time data to answer theoretical questions about the structure of problems. An experimental separation of stage in problem solving is indicated as a requirement before speed of problem solving can be clearly understood. Superiority (in speed) of groups versus individuals is described by a theory of "pooling of contributions". The paper is an example of problem solving as examined by psychometricians.

15. Scandura, J.M.. *Problem solving: A structural process approach with instructional implications*. London: Academic Press, 1977.

Historically, there have been three different areas dealt with in research on human problem solving. These are: (1) content, stressed by subject matter specialists and computer scientists, (2) cognitive processes, investigated by psychologists, and (3) individual differences, studied by test developers. To produce a unifying theoretical framework for these three aspects of study, the author has developed a deterministic theory of problem solving which he calls the structural learning theory. The major goals of his book are to show this synthesis, to propose new empirical methodologies for studying the three aspects, and to fit the theory to the findings of existing research.

Chapter 2

Limitations of Problem Solving Approaches

2.1 Introduction

One of the major challenges in developing a problem solving counselling approach for the unemployed is the wide range of needs which they present. Some persons are just beginning their careers and are entering the labour market for the first time. Others have developed long work histories but have developed very few job maintenance or job change skills. Women are re-entering the labour market after an absence of five to ten years. Immigrants who have recently arrived in the country are looking for employment. In addition to these groups, there are others who present special problems in preparing for entry into the labour market. They include native Indians, the handicapped, and ex-prisoners.

The problem solving approach may pose specific problems to specific types of clients and this part of the research paper will outline some of the problems and limitations that may be encountered when using the

problem solving approach with particular client groups. It is important to stress at this point that the limitations of the problem solving approach arise more from what the client brings to the counselling session than from the approach itself.

2.2 *Career Beginners*

The clients who are beginning their careers are usually the very young and vary in age from 17 to 23 years. This group on the average tends to have no work experience and have very few job skills. Some of the problems and limitations encountered by persons beginning their careers when using the problem solving approach are affected by factors such as the following:

1. *Age* — A large age difference between client and counsellor can create certain communication problems. Differences in belief systems, values, and life style due to age differences may produce communication problems that will limit the effectiveness of the problem solving approach.
2. *Lack of training and experience* — Due to the fact that training and experience will be very limited, the opportunities for generating alternative means of employment could be severely restricted.
3. *Anxiety* — If this is a first visit to an employment centre for the client, there is a good chance that the client will be very anxious. This anxiety definitely interferes with the problem solving approach.
4. *Impatience* — Many young clients want immediate results and are not prepared to invest the necessary time and effort to make the problem solving process work.
5. *Unrealistic expectations* — Because of the relevant affluence of our society, many young people have unrealistic expectations. These inflated expectations may become barriers in establishing realistic objectives.

2.3 *Persons Having Few Maintenance or Job Change Skills*

The clients who have few maintenance or job change skills tend to be middle-aged males in the thirty to forty age group. This group tends to have limited job and communication skills. Some of the problems and limitations encountered by persons having few job change skills when using the problem solving approach are affected by factors such as the following:

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1. *Low self-confidence* — Many of the people in this group may lack self-confidence due to limited abilities. Because the problem solving approach demands input from the client, low self-confidence could minimize the effectiveness of the approach.
 2. *Limited skills* — These clients possess limited job skills which by necessity limits the number of alternatives that can be generated.
 3. *Low motivation* — Since the problem solving approach demands active participation of the client as well as commitment and self-evaluation skills, low motivation on the part of the client could be a serious problem for the counsellor in using this approach.
 4. *Limited communication skills* — Many of the people in this group would lack the communication skills required for successful use of the problem solving approach. The problem solving approach is a cognitive approach which ideally functions best with a verbal and articulate client. The approach could prove threatening to people not used to working in this mode.

2.4 *Re-entrants to the Labour Market*

This group of clients consists mainly of mothers and homemakers who are in their thirties and early forties. These women may have worked before marriage but have not been active in the labour market for the last ten to fifteen years. Some of the problems and limitations encountered by women facing re-entry into the work force when using the problem solving approach are affected by factors such as the following:

1. *Low self-confidence* — After taking time off from the work force to raise their families, many women tend to underestimate the work skills they possess and may therefore lack self-confidence. This will affect the number of employment options they see for themselves.
2. *Anxiety* — Women who have been homemakers and mothers may feel some apprehension about entering the work force. This transition from a smaller to a larger social setting may create anxiety which can affect problem solving ability.
3. *Limited expectations* — Traditional expectations regarding the jobs women should work at might set limits to the jobs these women would consider.
4. *Single parent* — A woman with children to support may have to limit, by necessity, certain objectives and alternatives. This

could prove very difficult and frustrating to the client.

5. *Discrimination* — The male counsellor may inadvertently transfer certain biases to his female client, again limiting possible options.

2.5 *Immigrant Groups*

The clients who are recent immigrants to this country form a diverse group who vary in age and in the skills they bring to the work force. This group encounters many unique problems depending on the specific ethnic group but they also share many common employment problems. Some of the problems they share include language problems, cultural transition, and discrimination. Some of the problems and limitations encountered by immigrant groups when using the problem solving approach are affected by factors such as the following:

1. *Language* — Inability to communicate in the vernacular puts the client at an extreme disadvantage in using the problem solving approach.
2. *Culture* — Different cultural values will affect the client's goals and expectations.
3. *Unrealistic expectations* — Being new to a country and eager to make a fresh start, many of these people may set high or unrealistic goals for themselves. The discrepancy between economic aspirations and the economic reality of the land may prove frustrating.
4. *Discrimination* — As with women, counsellor biases may affect both the communication between counsellor and client and the employment goals that are set.

2.6 *Native Indians*

Native Indians form a diverse client group which consists of the young and the middle-aged. The clients in most cases are coming from the reserves to find work but some may be living in the city or in nearby towns. Due to the cultural differences between Indian and western industrialized society and the many years of discrimination against Indians, this client group presents its own unique challenge to the counsellor. Some of the problem and limitations encountered by native Indians when using the problem solving approach are affected by factors such as the following:

1. *Values* — Due to conflicting values between traditional native

culture and modern industrial society, many natives find it difficult to relate to industrial society's view of work. This may pose problems in developing a set of objectives with the problem solving approach.

2. *Time* — The problem solving model is based on certain expectations with regard to time. Certain discrepancies may arise from the conflict between the Indian's traditional view of time and the expectations of the approach.
3. *Discrimination* — The counsellor may transfer his or her prejudices to the native client, which imposes limits on the problem solving approach.
4. *Low self-confidence* — Many natives, due to limited employment skills, may lack self-confidence. Work in raising the native's self-confidence might be helpful in making the problem solving approach work.
5. *Limited opportunities* — Due to limited skills and the difficulty in integrating into the work force, the native Indian may confront limited opportunities in using the problem solving approach.

2.7 The Handicapped

The handicapped are a diverse group who differ in age and the degree and specific type of their handicaps. Many handicapped people are coping with limited opportunity, low self-esteem, and discrimination. Some of the problems and limitations encountered by the handicapped when using the problem solving approach are affected by factors such as the following:

1. *Discrimination* — Prejudices regarding the abilities of the handicapped severely restrict the opportunities offered them. This places restrictions on the options offered to them during the problem solving session.
2. *Dependence* — The most important goal in the problem solving model is to develop an independent thinking client. Since the handicapped person has, in the past, been encouraged to be dependent on others, this goal of independence becomes that much more difficult to attain.
3. *Low self-esteem* — Many handicapped people have low self-images. Self-confidence is a necessary component for successful participation in the problem solving approach.
4. *Limited opportunity* — Due to the actual physical limitations of the

work place, many avenues of employment will be restricted to the handicapped. This impedes some of the steps of the problem solving approach.

2.8 *Ex-Prisoners*

Many ex-prisoner clients are young and middle-aged men. Most of them have very low skill development and few job change skills. These clients are not only experiencing difficulty in adjusting to a new way of life but are also handicapped by restrictions imposed on them by their past jail records. Some of the problems and limitations encountered by ex-prisoners when using the problem solving approach are affected by factors such as the following:

1. *Lack of trust* — Many ex-prisoners feel that they have been unjustly dealt with. As a result, they find it difficult to trust the counsellor. Since the problem solving model is based on mutual sharing of responsibility, the lack of trust may impede progress.
2. *Discrimination* — Many employers may not trust this group and this may limit opportunities available to the ex-prisoner. These limited opportunities may create resentment or anger in the client and lead to frustration.
3. *Low self-image* — Having been imprisoned, many ex-prisoners may doubt their self-worth. They may enter counselling with a negative mental set and this would jeopardize counselling outcomes.
4. *Limited work skills* — Limited work skills may limit realistic alternatives for the ex-prisoner. This poses restrictions on the kinds of alternatives that can be generated within the framework of the model.
5. *Re-adjustment* — The transition from prison life to life outside of prison will create much stress and anxiety for the client. These factors, if not dealt with, will severely hamper steps of the problem solving model such as setting objectives, generating alternatives, and decision making.

Chapter 3

Research Directions for Developing an Optimal Problem Solving Set

Further Research

The five general stages as proposed by D'Zurilla and Goldfried (1971) will be used to identify areas in which additional research is needed on the problem solving model for employment counselling. The five general stages of the problem solving model include:

- general orientation
- problem definition and formulation
- generating alternatives
- decision making
- verification

3.1 *General Orientation to Problem Solving*

A set or orientation can be defined as an inferred predisposition that influences an individual to behave in a certain manner which may be either helpful or unhelpful depending on whether it moves the individual toward or away from an effective procedure and solution. Researchers believe that there may be an optimal problem solving set which encourages the development of independent problem solving behaviour. Within this optimal set are three distinct classes of behaviour: (a) accepting the fact that problematic situations constitute a normal part of life and that it is possible to cope with most of these situations effectively; (b) recognizing problematic situations when they occur; and (c) inhibiting the tendency to respond either on the first "impulse" or to do "nothing".

Although researchers have described an optimal problem solving set, no one has investigated how a counsellor can most efficiently facilitate the development of the behaviours associated with this optimal set. There is a need for research which could aid in the development of a facilitative problem solving set and this research could focus on the following:

1. *Verbal conditioning* — A number of studies (Krumboltz and Schroeder, 1965; Ryan and Krumboltz, 1964) have demonstrated that verbal reinforcement by the counsellor can determine client behaviour. One line of investigation may be to directly strengthen behaviours associated with the facilitative set.

The client would receive verbal reinforcement for identifying troublesome situations as well as for not avoiding but rather accepting and approaching a problem task.

2. *Modeling* — Applied research regarding the effects of modeling by Bandura (1971) and Meichenbaum (1971) leads one to believe that the modeling process could be very useful in teaching the client the three classes of behaviours in an optimal set. A videotape portraying a client in the process of learning the classes of desired behaviour could encourage some development of positive behaviours within problem solving. A client could observe a model client systematically engaging in problem solving.
3. *Self-recording* — Self-recording techniques used in behavioural self-control studies (Thoresen and Mahoney, 1974) may be helpful tools to encourage clients' awareness of their internal reactions to problematic stimuli. Clients can be instructed to graph their emotional experiences by recording covert statements, feelings, and consequences in reaction to different situations.

By developing a self-recording system the client, each time he or she felt angry, for example, might more successfully identify and label various aspects of a problem situation. Very little is known about how successful this approach would be for improving the client's mental set.

4. *Client-centered and Gestalt Approaches* — A fourth area of research might explore the attitudinal and behavioural outcomes of a client-centered (Rogers, 1961) or Gestalt (Perls, 1969) style of counselling. The goals of client-centered and Gestalt counselling are to help clients understand and learn to accept their emotions as human experience, not as events to be repressed. It is, therefore, necessary to ask whether or not clients who have focused on enhancing their awareness, understanding, and acceptance of themselves as human beings would demonstrate behaviours in reaction to problem situations different from behaviours of clients who have not undergone such counselling experiences (Heppner, 1978).
5. *Transactional Analysis* — Transactional analysis (Berne, 1961) provides an approach which teaches a client to behave and think independently as well as to become aware of his/her ego states. Future research could help determine whether a client who had been trained in such an approach would have a better mental set

for problem solving than a control group subject.

6. *Rational-Emotive Therapy* — A goal in the rational-emotive approach (Ellis and Harper, 1961) is to teach the client that it is possible to cope effectively with one's problems. It would be of research interest to see how clients trained in the rational-emotive approach would differ from a control group in their approach to problem solving.

Due to the lack of research on clients' initial reactions to problem solving situations, a good deal of work in this area is necessary. It is hoped that some of the above approaches may be useful in meeting this need.

3.2 Problem Definition and Formulation

The second stage of problem solving consists of defining all aspects of the situation in "operational" terms and formulating or classifying elements of the situation appropriately so as to separate relevant from irrelevant information. At the present time, there has been very little research done on the problem definition stages in counselling. Investigations are needed to evaluate the relative effectiveness of various problem-definition techniques. Some lines of research that are needed in the problem definition stage will be discussed in this section:

1. *Skill development* — Heppner (1978) states that to adequately define a problem, one could examine the elements relevant to at least three areas; (a) assessing oneself, one's behaviours, knowledge, emotions and feelings relevant to the problematic situation, as well as the consequences of these events; (b) assessing one's environment relevant to the problematic situation; and/or (c) delineating the problematic situation, including events such as goals, expectations, and conflicts. Due to the fact that an individual may not be able to adequately define a problem because of a deficit in one of the above skills, it is necessary to determine how a counsellor can help a client to remedy a skill deficit.
2. *Techniques from industry* — It would be helpful to determine whether techniques developed by industry (e.g. Inductive Teaching Program, Productive Thinking Program) be used in counselling to facilitate the problem definition and formulation process.
3. *Transactional analysis approach* — Transactional analysis strives to define the problem by facilitating awareness of various structural and transactional analyses. Research is needed to measure how

effective this approach is in assisting the client to define the problem.

3.3 *Generating Alternatives*

The third stage of problem solving involves generating a list of possible responses that may solve the problem. This may appear to be a very elementary task but the literature reveals that many interferences in this stage can create incompatible or restrictive responses. Some future possible research in the area of generating alternatives might examine the following:

1. *Brainstorming* — A good deal of research has been done in the industrial and business sectors regarding the development of alternatives. The most familiar and widely-used method is Osborne's (1963) brainstorming technique. This method consists of four rules: (a) withhold judgment while trying to generate alternatives; (b) free wheeling is welcomed; (c) quantity is wanted; and (d) combinations and/or improvements of suggested alternatives are sought.
Although there is substantial evidence that the brainstorming technique can work in industry and in a laboratory situation, research is needed to examine if individuals would use such techniques in everyday situations.
2. *Industrial techniques* — Other methods of facilitating the development of creative alternatives have been developed by the industrial sector. They include: attribute listing which entails changing or transferring abilities; morphological synthesis which is a process of identifying the possible dimensions and creating all the possibilities; and the idea checklist which is a list of questions intended to stimulate the nonobvious. Research is needed to see if these methods could be utilized in employment counselling.
3. *Modeling and videotape* — Arokoff and Stewart (1975) report that modeling and videotape feedback may facilitate processes such as information gathering in personal problem solving. More of this type of research could prove very useful.
4. *Anxiety* — Janis and Mann (1977) have shown that problem solving increases anxiety and that anxiety interferes with "vigilant information processing". They propose that if the anxiety level becomes too high, the person will engage in various defensive avoidance behaviours. Consequently, research should be undertaken to examine what specific counselling skills are needed to

deal with the emotions aroused in the problem solver by the problem solving task.

5. *Counselling approaches* — Many of the counselling approaches (Transactional Analysis, Reality Therapy, Client-Centered) suggest that reorganizing the client's perception of the environment is a common strategy in generating alternatives to a problem. In essence, most of these counselling approaches suggest exploring alternative manners of reacting to a problem by increasing information about oneself and by altering perceptions of oneself, one's environmental events, and one's belief system. Research is needed to determine which of the counselling approaches can best facilitate the generation of alternatives.
6. *Establishing cues* — Some research has indicated that the crucial variable in generating alternatives is not the number of variables generated but rather bringing the client's behaviour under control to generate alternatives in the first place. If this is the case, establishing cues to elicit alternative-producing behaviours may be needed. Research is needed to see if clients trained in learning to establish cues can facilitate better problem solving behaviour.
7. *Incubation period* — Evidence suggests that successful problem solvers will often put their problems aside for a period of time and then return to them at a later time (Klinger, 1971). Research is needed to explore whether planned incubation periods will facilitate the generation of alternatives or other problem solving behaviours.

3.4 Decision Making

The fourth stage of problem solving involves decision making which can be defined as the process of selecting one action from a number of alternative courses of action. From an employment counselling perspective, the goal of the decision making process is to help the individuals engage in a series of behaviours that will increase their probability of being satisfied with their decision.

1. *Skill development* — Although there is a substantial amount of research conducted in the area of decision making, very little of it deals with how a counsellor can teach or pass on the decision making skills to a client. Very little evidence is available to indicate that skill training in decision making develops systematic and effective decision makers. Evaluation is needed to measure

the effectiveness of a decision making model as a training procedure.

2. *Decision making procedure* — D'Zurilla and Goldfried (1971) have devised a decision making procedure that combines utility and probability theory with consequence training. Thus, in addition to utility and probability estimates, clients are given a worksheet on which they consider the personal, social, long-term, and short-term consequences that are likely to follow each alternative. Research is needed to determine if this procedure could be useful for employment counselling.
3. *Processing information* — With regards to seeking and processing information, it has been found that the human being has a very limited capacity. Payne (1976) found that as more information was made available, greater selectivity of information processing was exhibited by subjects. It appears that providing a person with more information may only mean that a smaller percentage of it is read or understood. Research is needed to determine how much information is really helpful to a person.
4. *Transferability* — Research is needed to measure decision making methods and to determine the degree to which acquired decision making skills transfer to other settings. It could be that decision making skills used in seeking employment could be transferred to dealing with specific personal problems.
5. *Cues* — Very little is known about the salient cues an individual attends to when making a decision and research in this area could prove enlightening.
6. *Prior information* — Several studies have indicated the importance of prior information in determining how new information will be understood. Bransford and Johnson (1973) have shown that the way in which a person relates new information to previous knowledge will affect the interpretation of what is perceived. When a person cannot find any relevant relationship between information and prior knowledge, the information is difficult or impossible to understand. Schank and Abelson (1977) suggest that understanding information is based on "schemata", abstract structures that provide the organization for a person's knowledge. More research in this area would be useful to the vocational counsellor.
7. *Career decision making* — The use of decision theory in studies of career decision making has been provided by Galatt and Clarke

(1967), Kaldor and Zytowski (1969), and Jepsen and Dilly (1974) have provided a thorough review and classification of these models and others. Although a number of authors have recommended the use of various aspects of the normative theory in career decision making, there seems to be little evidence that the recommendations have been acted upon. There is a need for programmatic research designed to list the descriptive and normative aspects of the career decision making model.

8. *Information seeking* — Svenson (1979) has reviewed several studies on information seeking in decision tasks. He concludes that increasing the number of choices induces less selectivity than does increasing the amount of information per choice. When there are many choices, the data suggest that the selectivity comes from eliminating some options before all of the information relevant to these options has been processed. This is true if the information is presented one attribute at a time (e.g., data about salaries for all occupations) rather than one choice at a time (all relevant information about a single occupation). In designing occupational information materials, it is important to present all of the information for a single occupation and take steps to prevent a possibly relevant occupation from being eliminated from consideration before all of the information has been read. More research is needed to understand how information can be presented so that the client can receive maximum benefit from the information.
9. *Utility theory* — In the process of determining the “goodness” of any particular course of action, work on decision making has made extensive use of utility theory (Pitz and Harren, 1980). Based on the efforts of von Neumann and Morgenstern (1944) to describe mathematically the process of choice in economics and games, utility theory involves a means-end conceptualization of decision making. The utility model which most closely parallels human behaviour in problematic situations is one which involves a subjective estimate of the probability that each particular alternative will achieve any given outcome, as well as subjective determination of the value of the various outcomes. In training a person to improve his/her problem solving ability, the determination of the utility of a decision should be made in light of that individual's own values. More research on the application of utility theory for employment counselling is needed.

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10. *Personal problems* — There is ample evidence in psychology indicating that decision making skills can be enhanced on formal laboratory problems, but there appears to be a lack of evidence for enhancing people's decision making skills on applied personal problems. This is an important finding which indicates a need not only for researchers to examine how people make decisions on applied personal problems, but also how counsellors might be most effective in improving a client's decision making skills.

3.5 Verification

Verification is the final stage of the problem solving process and it is designed to assess the actual outcome of the chosen course of action so as to make self-correction possible. Without this crucial step, an individual may persist in the performance of an inappropriate course of action instead of finding out where the problem is and making corrections accordingly. To be maximally effective, the problem solver must take steps to obtain accurate information about the actual consequences of his/her chosen course of action so that he/she can determine whether his/her choice was, in fact, the "best" one. Some lines of research that appear necessary are discussed in this section.

1. *Self-observation* — Kanfer (1970) has cogently maintained that training in self-observation enhances one's ability to regulate key self-management skills. At this point research investigating the effect of teaching clients self-monitoring skills on the development of self-evaluation skills within a problem solving sequence is needed.
2. *Efficacy of self-imposed techniques* — A fairly substantial body of evidence exists indicating that, when compared to externally imposed behaviour change strategies, self-imposed strategies are equally efficacious in the control of behaviour (Glynn, 1970; Johnson, 1970; Kanfer, 1970; Bandura, 1971). However, very little research has been devoted to comparing the relative efficacy of different types of self-imposed techniques. For example, no comparisons have been made among the self-management subclasses of self-reinforcement, self-punishment, and auxiliary techniques.
3. *Cognition* — The most basic problem facing researchers in the area of problem solving is the whole conceptual question of cognition. Questions that need to be answered are: what is a cognition; is it an event or a process; is it restricted to the central

nervous system; what forms of cognition are there; and how do cognitions relate to emotions (and vice versa)?

4. *Self-evaluation* — To facilitate the development of self-evaluation skills, it might be productive to examine the research literature regarding self-monitoring and self-evaluation procedures within the field of counselling.
5. *Contracts* — The whole issue of setting a contract with a client has to be examined. The contract problem in self-management remains virtually unexplored and needs to be studied.
6. *Needs assessment* — Another potential research situation might be to develop instruments to conduct a needs assessment of a client's problem solving skills to detect specific skill deficits in any of the problem solving stages.

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Chapter 4

The Application of the Problem Solving Model for CEC Clients

4.1 Introduction

One of the most recent trends in counselling psychology has been the emerging popularity of cognitive and information-processing models of behaviour change. An important aspect of this dramatic development is the fact that behavioural and cognitive psychologists are agreeing on some basic theoretical assumptions. The history and implications of this cognitive-behavioural interaction are both extensive and complicated and this paper will only briefly review this phenomenon.

The emergence of a cognitive-learning perspective can be credited to a small number of writers. The founding fathers of this current trend were Rotter (1954), Kelly (1955), Ellis (1962), and Beck (1963). After the publication of Bandura's (1969) monumental text *Principles of Behaviour Modification*, cognitive terms and themes have become a major aspect of behavioural research. The traditionally restrictive format of behavioural counselling began to evolve into a broader coping skills paradigm emphasizing problem solving training (D'Zurilla and Goldfried, 1971; Mahoney, 1977; Spivack and Shure, 1974).

The cognitive-learning therapies which have developed from the cognitive-behavioural perspective are a loose aggregate of procedures that share some fundamental assumptions but vary significantly in their theoretical parentage and theoretical procedure. Some of the general assumptions they share have been summarized by Mahoney (1977).

These assumptions include:

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1. The human organism responds primarily to cognitive representations of its environment rather than to those environments *per se*.
 2. Cognitive representations are functionally related to the processes and parameters of learning.
 3. Most human learning is cognitively mediated.
 4. Thoughts, feelings, and behaviours are causally interactive.
 5. The resultant task of the counsellor is that of a diagnostician-educator who assesses maladaptive cognitive processes and subsequently arranges learning experiences that will alter cognitions and the behaviour and affect patterns with which they correlate.

The cognitive learning therapies can be classified into three major divisions: (1) cognitive restructuring, (2) coping skills, and (3) problem solving therapies. According to Mahoney and Arnkoff (1978), the main proponents of the following divisions are:

- (a) Cognitive restructuring
 - Rational-emotive therapy (Ellis, 1962)
 - Cognitive therapy (Beck, 1976)
- (b) Coping skills therapies
 - Covert-modeling (Kazdin, 1973)
 - Anxiety management training (Suinn and Richardson, 1971)
 - Stress inoculation (Meichenbaum, 1977)
- (c) Problem solving therapies
 - Behavioural problem solving (D'Zurilla and Goldfried, 1971)
 - Problem solving therapy (Spivack, Platt and Shure, 1976; Mahoney, 1977)

Among the cognitive learning therapies, it is becoming apparent that the problem solving perspective is producing the most promising clinical results (Mahoney and Arnkoff, 1978). It is the purpose of this section to examine the suitability of the problem solving model for employment counselling within the Canada Employment and Immigration Commission (CEIC).

Although the phenomenon of problem solving has long been of interest to experimental and cognitive psychologists, mathematicians, and computer scientists, its relevance to counselling has only recently been explored. The need for that exploration was first mentioned in counselling quarters by D'Zurilla and Goldfried (1971).

Much of the recent research in problem solving therapies has been

done by Spivack and his colleagues. Their work (Siegel and Spivack, 1976; Spivack, Flatt and Shure, 1976) has been primarily in the area of emotionally disturbed children, adolescents, and institutionalized psychiatric patients.

Supplementing the research of Spivack and his colleagues have been a number of other studies (Arnkoff and Stewart, 1975; Jacobson, 1977; Mendonca and Siess, 1976) which have addressed the usefulness of the problem solving approach in counselling. A number of counsellors have included problem solving training in successful treatment packages (Haley, 1976; Mahoney and Mahoney, 1976).

While there is no single agreed-upon model of problem solving at this time, an examination of many models reveals that there are some common stages postulated within the various models. The five general stages of the problem solving model presented by D'Zurilla and Goldfried (1971) seem to come close to representing a consensus viewpoint on the general kinds of operations involved in effective problem solving. This model divides problem solving into definable stages (general orientation, problem definition and formulation, generating alternatives, decision making, and verification).

The question that must be asked at this time is this: how suitable is a problem solving model (as described by D'Zurilla and Goldfried (1971)) for employment counselling? Before answering this question it is essential to know what the goals and objectives of employment counselling are and the types of clients with whom the employment counsellor works.

The goal of employment counselling within the CEIC is to assist the non-job-ready client to be more successful in his/her efforts to integrate into the labour market. The more specific objectives of employment counselling are:

1. To establish with the client an occupational goal which is realistic and achievable;
2. To identify, implement and monitor with the client the solutions and corrective actions required to achieve integration into the labour market; and
3. To assist the client in becoming independent in his/her efforts to achieve and maintain satisfactory placement.

Most of the clients with whom an employment counsellor works would have been described in chapter two.

It is obvious that the employment counsellor faces a multitude of problems and limitations in attempting to find suitable employment for these large and diverse groups of clients. Specifically, these include:

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- low self-confidence
 - lack of training and experience
 - anxiety
 - impatience
 - unrealistic expectations
 - low motivation
 - limited communication skills
 - limited expectations
 - discrimination
 - language barriers
 - cultural barriers
 - personal problems
 - different values
 - limited opportunities
 - dependence
 - re-adjustment

It is obvious, too, that the employment counsellor must provide a wide range of counselling and information services. In order to meet the needs of this very large and diverse group of people and to attempt to attain some of the objectives of the CEIC, it becomes very apparent that a problem solving model can be very useful to the employment counsellor.

4.2 *Benefits of the Problem Solving Model*

There are many contributions that a problem solving model can make to employment counselling. As well, there are some difficulties which can arise from the adoption of this model. The following discussion will outline some of the benefits the problem solving model may provide for employment counselling.

4.2.1 *Systematization of Problem Solving*

The most important contribution this model can provide to employment counselling is a comprehensive system for organizing and guiding behaviour throughout all phases of the counselling process. With a general system such as the problem solving model, the counselling process is an orderly whole within which is specified the counsellor and client tasks to be accomplished and the competencies to be used in performing such tasks. This system can assist the employment counsellor to clearly communicate to colleagues, to the client, and to supervisors what direction is being taken to facilitate movement of the client towards

employability (Patsula, 1981). The problem solving model is a system which can provide to employment counselling the following benefits:

- (a) *Goals for the counsellor and client* — The problem solving approach is based on the formulation of very specific goals to be achieved through counselling. This permits the counsellor to define with the client the extent of the interventions within which they can productively work. An understanding of where a client is now, where she/he wants to be strengthens the counselling process in two main ways: first, it allows the counselling strategy to be tailored to the client's needs; and secondly, it provides an objective measure of the success of the counselling strategy.

Assuming that client goals have been explicitly stated and are realistically attainable, employment counsellors are then in a position to determine which kinds of clients should get priority service and which show the most progress in moving toward greater employability. This understanding of goals leads to better caseload management for the counsellor.

- (b) *Structure for counselling activities and employment tools* — The problem solving model provides a framework whereby the counsellor can learn what activities should be engaged in and which employment tools can be used to assist the activity. Employment tools such as PLACE, ICO, COII, GATB, Moving On, Creating a Career, Careers Canada, Careers Provinces, and FOIL can be programmed into a problem solving model.
- (c) *Structure for counselling interventions* — The problem solving model provides the counsellor with different intervention activities which can be used at different stages. For example:

<i>Problem Solving Stage</i>	<i>Counsellor Intervention Activity</i>
i. Objective setting (Appraising the challenge)	— listening — paraphrasing — cueing — cognitive modeling — reinforcing

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| ii. Information gathering
(Surveying alternatives) | — verbal reinforcement
— thought-stopping
— cognitive restructuring
— skill training
— emotional role playing
— brainstorming |
| iii. Decision making
(Weighing alternatives) | — originality training
— modeling
— suggestion
— verbal cueing
— metaphorical thinking |
| iv. Plan of Action
(Deliberating about commitment) | — fantasy rehearsal
— outcome psychodrama
— verbal cueing and reinforcement
— modeling
— simulation |
| v. Follow-up (Adhering despite negative feedback) | — balance-sheeting
— force-field analysis
— stress inoculation
— peer modeling
— homework
— evaluation checklist
— supervision reports |
- (d) *Inservice training* — The problem solving model provides a systematic approach to counselling and this provides an ideal framework for implementing inservice training for new counsellors and others interested in brushing up their counselling skills. The model outlines the different intervention skills needed for each of the stages of problem solving.
- (e) *Evaluation* — The problem solving model provides a system whereby evaluation of client and counsellor is performed. The major purposes of evaluation are to determine client progress and to improve counsellor effectiveness.
- The major steps in evaluating client performance include analyzing outcomes, determining whether the counselling objective has been attained, and determining the need for further counselling. The counsellor terminates formal counselling contact with a client by explaining the rationale and procedures for termination, dealing with resistance to ter-
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mination, conducting transfer of learning, and establishing plans to monitor the client's post-counselling performance.

The counsellor evaluation is accomplished through self-rating, through introspection, and through soliciting reactions to one's performance from the client and the observers such as fellow counsellors and supervisors. Data concerning all cases handled over a specified time period may be used to evaluate the counsellor's performance for purposes of accountability.

4.2.2 *Development of Independence in Problem Solving*

The problem solving model involves a developmental-educational process which complements the objectives of the CEIC, the most important objective being to assist the client in becoming independent to achieve and maintain employment. Within the model, techniques such as brainstorming, evaluating alternatives, and cognitive restructuring are taught.

4.2.3 *Development of Coping Skills*

The model teaches not only specific coping skills, but also the more general strategies of assessment, problem definition, and decision making. The counsellor is sharing years of expertise by making the client an apprentice in counselling. By providing the client with better problem solving skills, the employment counsellor may go a long way towards helping the client become independent without long individual analysis.

4.2.4 *Development of Internal Locus of Control*

The problem solving model is useful in that it teaches the client that he or she can affect or control, at least in part, what happens to him or her. The belief that one's own behaviour, characteristics, or attributes determine what one's outcome will be can be classified as a belief in internal control. D'Zurilla and Goldfried (1971) have suggested that the main ingredient in successful counselling outcomes may very well be the client's learning that he or she can control his or her own responses and behaviour.

4.2.5 *Cost Efficiency*

To the extent that clients can learn problem solving skills that will enhance their ability to become independent, the issue of cost-efficiency comes to mind. It makes sense that this model would improve cost-efficiency with counselling person-hour time

due to its developmental-educational nature. The goal for the client is not for a long dependent relationship but to become an independent problem solver. To improve cost-efficiency, it must also be noted that the problem solving model works as effectively with groups as it does with individuals (Burgen and Amundson, 1980).

4.2.6 *Recognition of Alternative Solutions*

A more specific but highly important contribution which the problem solving makes is the activity of exploring alternatives. The model shows the client that there are alternative solutions for life problems other than those which they have accepted or considered. Some alternatives may be worse and some may be better. Allen et al. (1976) have found that individuals who practise looking for alternatives in many cases find satisfactory solutions to what seemed to be insoluble problems.

4.2.7 *Pragmatism of Problem Solving Strategies*

The problem solving model allows substantial room for the uniqueness of the individual client. The core feature of problem solving as a counselling approach is pragmatism — its focus on helping the client to discover and implement whatever adjustment strategies are effective in a given situation.

4.2.8 *Minimal Theoretical Background Required by Counsellors*

Extensive background in psychology, counselling theory, and counselling practice is not necessary to work effectively with clients when using the problem solving model. The theoretical background required to practise the model stems primarily from basic learning theory, decision making theory, behavioural change theory, and motivational theory.

4.3 *Difficulties in Applying the Problem Solving Model in CECs*

The adoption of a system such as the problem solving model will create some difficulties within the existing structure and organization of employment counselling services (CEIC). Some of these difficulties will not be discussed.

4.3.1 *The Urgency of Job Placement*

At the present time, the emphasis in many employment centres is on quantity of placement rather than on quality of placement. In fact, some employment counsellors have jokingly

referred to themselves as "placement officers". As long as employment counsellors are pressured to meet a certain quota of placements, time will not be spent on preparing the client adequately for a job placement. The problem solving process which is based on a developmental-educational model requires that some time be spent with the client in the area of skill development.

4.3.2 *Need for Counsellor Training*

The problem solving model assumes that the counselor has skills in areas of cognitive and behavioural development. A systematic program of training, inservices, and evaluation is necessary if the problem solving model is to be successfully implemented in employment counselling.

4.3.3 *Resistance to Change*

A new model or idea will always present a threat to people who have vested interests in the old way of doing things.

4.3.4 *Counsellor Work Load*

Presently the client-counsellor ratio is very high and such a ratio makes it very difficult to practise a problem solving model. The part of the model which is usually sacrificed because of high ratios is client skill development.

4.3.5 *Lack of Counsellor-Client Continuity*

The problem solving model works best when a client can develop some type of continuity with a counsellor in learning the model. In many employment centres, the client may end up working with several counsellors. A "first come, first served" situation exists.

4.3.6 *Lack of Incentives for Implementation*

The challenge in implementing the problem solving model is to have both counsellor and management commit time and energy to learn and practise the model. If there are no built-in incentives to learning and practising the model, the whole exercise will fail.

4.4 *Theoretical Problems with Application of the Problem Solving Model*

The second general area of concern about the problem solving model and its suitability for employment counselling is the complicated area of

theoretical issues. Partially due to its relative newness to the counselling field as well as the large area of learning it comprises, the research literature indicates that there are some unresolved issues dealing with the problem solving model. Some of these areas of concern which may present difficulties for employment counselling include:

4.4.1 *Development of Facilitative Problem Solving Set*

Evidence has indicated that some people have a facilitative set for problem solving. A set is an inferred predisposition that influences a client to behave in a certain manner which can be either facilitative or disruptive.

Unfortunately, very little is known about how a counsellor can efficiently foster the development of the behaviours associated with this facilitative set. Further research with regards to general orientation might examine:

- (a) verbal conditioning
- (b) modeling
- (c) self-recording
- (d) counselling approaches

4.4.2 *Effectiveness of Problem Definition Techniques*

At this time, there is very little known about the relative effectiveness of various problem definition techniques. Research in this area might examine:

- (a) skill development
- (b) industrial techniques
- (c) counselling approaches

4.4.3 *Application of Methods for Generating Alternatives*

There is sufficient evidence to suggest that certain alternative-producing techniques work in a laboratory or in an industrial setting but it remains to be seen if individuals would use such techniques in everyday life situations. Research related to this stage could study:

- (a) brainstorming
- (b) industrial techniques
- (c) modeling and videotape
- (d) anxiety
- (e) counselling approaches
- (f) establishing cues
- (g) incubation period

4.4.4 *Lack of Knowledge of Effective Decision Making Techniques*

A tremendous amount of research has been done on decision making but very little applies to the practitioner desiring to facilitate the development of decision making skills in clients (Heppner, 1978). Very little evidence is available to indicate that skill training in decision making develops systematic and effective decision makers. Research needed with regards to this stage might examine:

- (a) skill development
- (b) decision making procedure
- (c) processing information
- (d) transferability
- (e) cues
- (f) prior information
- (g) career decision making
- (h) information seeking
- (i) utility theory
- (j) personal problems

4.4.5 *Lack of Knowledge on Verification Techniques*

There is not a great deal of research that has been done that directly applies to this stage. Testing out the plan of action and matching the outcome of the response to some standard is necessary in evaluating the success of the problem solving approach. Research that would help fill this gap might examine:

- (a) self-observation
- (b) efficacy of self-imposed techniques
- (c) cognition
- (d) self-evaluation
- (e) contracts
- (f) needs assessment

4.5 *Summary*

A general model that appears to be compatible with the goals and objectives of employment counselling (CEIC) is that of problem solving. The problem solving model may ultimately yield the most encouraging counselling results. The model not only teaches the client specific coping skills but also provides general strategies for becoming an independent problem solver. There are definitely some difficulties within the problem

solving model which are of concern and may prove troublesome, but with commitment and time, these difficulties are surmountable.

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Time Use Measurement — A Potential Tool for Manpower Planning

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Introduction

The major economic variables to be dealt with by the policy maker, at least from the point of view of the general public, tend to be related to employment activity: unemployment rates, wage rates, income and hours of work, and working conditions. Traditionally it has been necessary to consider these independently of other relevant data and often independently of each other because of the survey and sampling approaches used. Disparate units and definitions have been used in an attempt to deal with disparate concerns.

Undoubtedly the needs which have generated the variety of studies and surveys in the past will continue unabated. However, there is a growing concern on the part of society, and particularly business, that the demand for information is placing a severe drain on the resources available and requiring an inordinate amount of time. Consequently, there is a need to revise the collection procedure for social and economic statistical information so that the heavy response burden placed on some sectors of the economy will be reduced.

Additionally, there is a need to develop a firmer base for such statistics. Currently while a limited amount of overlap exists among various series such that they provide an opportunity to evaluate the validity and reliability of the collection mechanisms there are great gaps in the data which preclude the possibility of developing ultimate checks on it. The firmest check on the accuracy of data is the ability to match the sum of the reported parts to known totals. Any businessman assures that his accounts add up, consequently there is a relatively accurate accounting of our financial and material resources.

In contrast, there is little understanding of that resource which ultimately is of primary concern to society and to the individual and should thus be the

primary concern of the policy maker. The resource is labour time, measured in terms of the total time pool available for social and economic production. Typically people have been considered productive or not productive on the basis of their employment status not on the basis of their involvement in productive activity either within or outside the marketplace. We have not been in a position to evaluate the total labour pool because only in a haphazard fashion has existing data taken into account the behaviour of those not in the labour force. At the same time, only the employment time of those in the labour force has been accounted for.

Partly because Canada has not suffered great labour shortages, there has been little concern with the regulation and the manipulation of time in a manner that would, at least, increase the amount of market production time available. The major problem, certainly currently, appears rather to be what to do with a surplus of labour. With over 8.0 percent of the nation's labour force unemployed, the last thing that seems important is the wiser use of time in an attempt to increase the labour pool. Yet we need only reflect on the current energy crisis to realize the speed and definitiveness with which circumstances can change.

The foregoing suggests several questions to which counsellors, manpower analysts, and policy makers should address themselves.

- What is the relationship between market and non-market production? Does this change with economic conditions? Does the relationship play an important part in the ability of the economy to adjust to change? How can individuals best be prepared to fulfill their roles in the two sectors?
- In the case of shortages of labour, what is the potential labour pool available in terms of expanded work time by current and potential labour force participants? How can production and working conditions be organized to optimize the flexibility required to permit desired involvement in both sectors?
- In times of surpluses of labour in the economy, to what ends are the surplus hours directed? Are these fully utilized, or can they be made more productive?

These questions pose a challenge to society, since they address the use of our most scarce resource, time. If time is to be used wisely and beneficially it is necessary to understand the temporal implications of a broad range of individual and collective decisions that affect both the lives of individuals and the viability of our society. The above questions pose a particular challenge to counsellors and policy analysts, since one needs to advise the individual, and the other government, on the best way to maximize benefits from the use of time.

In order to address the foregoing questions it is necessary to have an understanding of the allocation of time in its totality. It is necessary to understand the effect that workers' attachment to the labour force has on their circumstances and on the economy. Are they contributors to the total resource pool or do they represent a drain on it? Is the labour force status of individuals one of their choosing or is it a choice forced on them by economic or other circumstances? Are the aspirations of individuals with respect to the spending of their lives compatible with the sound functioning of the economy? The answers to these questions ultimately require information which does not currently exist. If society is to come to grips with the questions posed above it is necessary to develop the means by which the required information can be obtained. Time use analysis is an important element in the development of a salient data base.

Time use analysis can both enhance the usefulness of existing data and contribute to filling many of the data gaps that currently exist. It can provide: (a) a check on currently collected data; (b) a wide variety of data not currently available and; (c) a framework for the integration of new and existing data.

The following discusses the essence of time budget methodology and relates its elements, for purposes of evaluation and illustration, to urban modelling. The lessons learned from its use in this field have important implications for its use in manpower planning and in many other areas.

Basic Dimensions of Time Budget Data

Numerous social inquiries collect data concerning activity participation and time use. These include the labour force survey, travel studies, readership surveys, and studies of general leisure time use and particular facets of it such as TV viewing habits.

In general these studies require the respondent to complete a checklist showing the extent of participation in defined activities, and other information concerning the activity may be asked for, such as satisfaction and preferences. Such a list was used in the Canadian Survey of Non-Work Time. Additionally, much more data from which activity participation and time use can be inferred are collected on the use of various facilities such as libraries, museums and theatres.

The respondent may be asked to keep a log of specific activities such as TV viewing or travel. In this case it is possible to get information on duration, sequence and various other dimensions for the activity being logged.

Data collected in the foregoing manner tend to be taken out of context.

The observed are travellers, TV viewers, readers. What they are doing is determined (it is hoped) by what they are; i.e., male, young, single; or by what they think or do at different times or places. Such data miss many of the objective and subjective circumstances attendant upon participation in the activities and yet it is often these circumstances, much more than personal characteristics, which determine actual behaviour.

In contrast, a time budget places activities in context since it "is a log or diary of the sequence and duration of activities engaged in by an individual over a specified period — most typically a 24-hour day" (Converse, 1968). By its nature, it permits and facilitates the recording of a number of dimensions attendant with each particular act. Figure 1 shows a sample page from a time diary.

In time budget surveys the basic unit is the episode or event. This is a single activity engaged in by an individual at a specified place and time under certain conditions. For example, the event might be 'eating lunch, at home, alone, from 12:15 p.m. to 12:35 p.m.' A diary might yield, for example, at least the following six untransformed activity dimensions for an episode.

1. primary activity (What did you do?)
2. temporal location (Time you began?)
3. secondary activity (What else were you doing?)
4. location of activity (Where?)
5. social contacts, i.e., persons present (With whom?)
6. additional items (Remarks) which can elaborate the primary activity; e.g., type of TV show, reading material, etc.

From the diary, however, other derived dimensions can be calculated. These include duration, order in a sequence, and daily frequency of occurrence.

Subjective dimensions can also be attached to each activity episode. Cullen, for example, asks questions relating to the space-time fixity of each activity (Cullen, 1972, p. 288). Thus, it becomes possible to collect data on perceptions and preferences simultaneously with objective events.

Typically, time use studies have focused on hours and days. Weekly time estimates are derived from these. Months and seasons have seldom been used in time use studies. However, for some activities month and season can be important. For this reason recent studies in both the United States and Norway have collected time diaries, three or four per respondent, in a manner that would provide diaries over the entire year.

The full diary format enables one to account easily for the dimensions of people's lives other than actual activities. For example, the use of the diary approach in the Halifax study made possible the examination of the extent of

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daily social contact of various groups, as well as the extent to which individuals made use of alternative locations within the city. Examining social contacts, it was found that suburban dwellers had greater family contact than did those living in a more urban setting, averaging over an hour more with family each day. An examination of land use showed that on average over all days unemployed females spent nearly 21 hours, or 87.5 percent of their time, at home compared to approximately 16 hours, or 67 percent, by employed females. Beyond these simple observations, it is possible to identify what the individuals were doing with their families at what time of day. Observations such as these are natural products of diaries.

Additionally, the diary format ensures consistency in time activity data by leading people through the day and causing them to account for their time in a constrained manner. Experience has shown that the time diary meets little more opposition than conventional survey approaches and, by its format, it promotes recall and accuracy, yielding relatively high validity and reliability.

Another major strength of time budgets is that they provide an integrative element. By virtue of (1) their stock properties and accounting nature, and (2) their flow properties in terms of sequencing, they have a decided advantage for information gathering, description and analysis.

From an activity description viewpoint a diary approach is superior to an activity list if a number of dimensions are sought or if there is a need for temporal location data. This author has elsewhere listed a number of other criteria which should be considered in evaluating the type of instrument required for a particular task (Harvey, 1975).

The Basic statistics provided by time use studies include duration, activity frequency, and temporal location (time of day, week, etc.).

Duration refers to the quantity of time, typically minutes or hours per day or week, devoted to a particular activity or situation. It is the major temporal indicator. Any positive value indicates the extent of participation during the period being monitored. A zero value indicates non-participation. As an indicator duration can serve to quantify an endless number of items of interest. These include:

1. time spent in various activities such as work, study, leisure, etc.;
2. time spent in various locations such as home, workplace, stores, etc.;
3. time spent alone or with family, neighbours, co-workers etc.;
4. time exposed to stress;
5. time spent in automobiles, on public transit, walking etc.;
6. time spent in routine, planned or unexpected activities.

The range of indicators which can be quantified in this manner is limited primarily by practical data collection considerations. The key value of duration is that it provides a measure which can be used to relate information

which has been collected in disparate ways and at different times. For example, an accounting of the number of club meetings and their length and attendance has been used to estimate, for a small community, per capita time devoted to such activities. These estimates were found to closely correspond to similar estimates obtained via time budget studies.

As an illustration Table 1 examines the Work Importance Study time scale activities in terms of durations recorded in the Halifax time budget study in 1971-72, for selected subpopulations. On average males engaged in thirty-nine hours of paid work per week compared to 16.6 hours for females. The table shows that while the presence of children under five years of age has little effect on study time of females it more than halves community service time and nearly halves work time primarily as a result of increased time devoted to home and family.

Frequency refers to the number of episodes of a given activity occurring during a specified period of time. Examples are the number of meals eaten a day or the number of movies attended a month. It is the kind of information typically collected by means of activity lists and is usually used as a surrogate

Table 1
Hours per Week Devoted to the
Work Importance Study Time Scale Activities
Selected Subpopulations, Halifax, 1971-72

Activities	Males Total	Total	Females Children Under 5	Children 5 and Over
Study	3.4	1.5	.6	.7
Working	39.0	16.6	7.2	13.3
Community Service	1.3	1.4	.8	2.0
Home and Family	10.9	34.4	49.2	39.4
Leisure	37.0	35.1	32.3	33.8
Other	76.5	79.0	77.8	78.8
	168.0	168.0	168.0	168.0

Source: Doma Study, Institute of Public Affairs, Dalhousie University, Halifax, Nova Scotia, 1971-72.

measure of time allocation. However, it is of limited value in comparing activities which are likely to differ significantly in the amount of time devoted to each episode.

Temporal location refers to the time of day, week, month or year an activity is undertaken: Examples include the time of day persons depart for work or the time school lets out. At another level it may refer to laundry day, grocery day, or the time of year when vacations are scheduled. While temporal location is not frequently used as an indicator it is highly significant to the rhythm of society. Of more particular concern may be the variation in time when an activity can be engaged in. Low variation often means little freedom in exercising a given activity (e.g., leaving for work) and thus possible system overload (e.g., traffic congestion).

Activity sequence is another temporal measure which can only be obtained from time diary studies. Sequence differs from temporal location in that it relates the occurrence of a given activity to those which precede and follow it. It takes one closer to understanding how individuals organize their day. It also helps to increase our understanding of activity participation. Thus, work out of the home increases the probability that an individual will engage in out of home discretionary activity in the next period. Housework considerably reduces, relative to other activities, the probability that one will engage in out of home discretionary activity in the next period.

Activity Constraints and Time Budget Data

It must not be assumed that time budgets measure what people would like to do or what people enjoy doing. They are mirrors which reflect actual behaviour. It is important to understand the implications of this if one is to collect useful time allocation information and use it profitably. Some understanding of the shortcomings of time diary information, and of the caveats that must be borne in mind when interpreting it, can be gained by examining work in the area of urban activity systems where the most significant developmental work has been done. An examination of the concerns of the activity systems approach provides a basis on which to build a behavioural framework for the collection and use of time budget information.

Since the mid-1960s Chapin and a number of his colleagues have pursued the study of activity systems. The focus of their work is the city and how it shapes, and is shaped by, behaviour. The most up-to-date exposition of Chapin's approach and some of the experience derived in studying it are contained in his *Human Activity Patterns in the City* (Chapin, 1974).

In this work Chapin sees activities as classifiable acts of behaviour which can be used to study urban behaviour, and "urban activity systems" as "an

umbrella term for the patterned ways in which individuals, households, institutions, and firms pursue their day-in and day-out affairs in a metropolitan community and interact with one another in time and space" (Chapin, 1974, p. 23). This is seen as the common denominator for linking the various sub-systems of the overall activity system.

An activity pattern, according to Chapin, is "a tendency for a population to behave similarly" (Chapin, 1974, p. 32). This applies to each of the sub-systems, households, institutions, and firms identified by Chapin.

The behavioural model early adopted by Chapin was based on a motivation-choice-outcome sequence. This approach stresses the choice or preference factor in individual behaviour. Recently he has recognized that, while motivation and choice may be sufficient to create a propensity to act, the outcome or activity was also dependent on the opportunity to act. Instead of viewing the behavioural sequence entirely as a "demand" phenomenon, the consummation of an activity is seen to be dependent on a "supply" consideration as well (Chapin, 1974, p. 33).

In contrast to Chapin, Hagerstrand tends to view behaviour "entirely from the point of view of constraints" (Hagerstrand, 1970, p. 11). Specifically, he sees three kinds of constraints operating. "Capability constraints are those which limit the activities of the individual because of his biological construction and/or the tools he can command" (Hagerstrand, 1970, p. 12). These include such circumstances as sleeping and eating requirements, access to an automobile, etc. "Coupling constraints define where, when, and for how long the individual has to join other individuals, tools, and materials in order to produce, consume and transact" (Hagerstrand, 1970, p. 14). Finally, there are authority constraints operating in domains "within which things and events are under the control of a given individual or a given group (Hagerstrand, 1970, p. 16). These include private property, zoning regulations, store hours, or even a favourite chair or a place in a queue. "There exists a hierarchy of domains . . . and certain kinds are beyond escape. Those who have access to power in a superior domain frequently use this to restrict the act or possible actions which are permitted inside subordinate domains" (Hagerstrand, 1970, p. 6).

Cullen and his associates, working along lines similar to those of Hagerstrand, see Hagerstrand's approach in terms of a "simple fixed-unfixed dichotomy" (Cullen, 1972, p. 287). They argue instead for an elaborate range of flexibility defined by the degree of commitment to the activity and the time space fixity of it" (Cullen, 1972, p. 287). They see four categories of commitment:

- arranged activities,
- routine activities,

-
- planned activities, and
 - unexpected activities.

Thus, while Hagerstrand views activities as occurring within an opportunity set defined by the several constraints, Cullen and associates view activities as occurring within bounds set by both temporal-spatial constraints or fixity and by preferences or priorities, combining aspects of both the motivational-choice mechanism of Chapin and the constraint approach of Hagerstrand. Cullen and Phelps have more recently argued that "behaviour is an 'interactive' function of the social, economic and physical context in which it occurs" (Cullen and Phelps, 1975, p. 3). Further, they have introduced into their work the concept of stress, taking as a starting point a definition which "characterizes stress as essentially no more than a perceived imbalance between demand and response capability" (Cullen and Phelps, 1975, p. 7). They see as two advantages in this definition the fact that it "focuses on situations rather than organisms . . . [and] . . . it refers explicitly to what individuals perceived to be the case . . ." (Cullen and Phelps, 1975, p. 7). More recently Cullen has argued that "the understanding of social action requires an explanation in terms of the motives, intentions, and subjective constructions of the situation typical of the actors involved" (Cullen, 1976). Perception also plays a role in the framework established by Horton and Reynolds to predict urban travel behaviour (Horton and Reynolds, p. 136). Their conceptual model contains three spatial elements, "objective spatial structure refers to the location of the household relative to the actual locations of all potential activities and their associated objective levels of attractiveness . . . Action space is the collection of all urban locations about which the individual has information and is the subjective utility or preference he associates with those locations . . . An individual's activity space is defined as the subset of all urban locations with which the individual has direct contact as the result of day-to-day activities" (Horton and Reynolds, p. 136). The approach they adopt "examines the formation of an individual's action space" as a function of his socioeconomic characteristics, his cognitive images or perception of the urban environment, and his preferences for travel (Horton and Reynolds p. 37).

Each of the approaches cited represents an attempt to understand and explain individual behaviour. Each sees specific factors which promote or impinge on individual behaviour and ignores or plays down factors considered important by the others. And each is able to cite ample empirical or intuitive support.

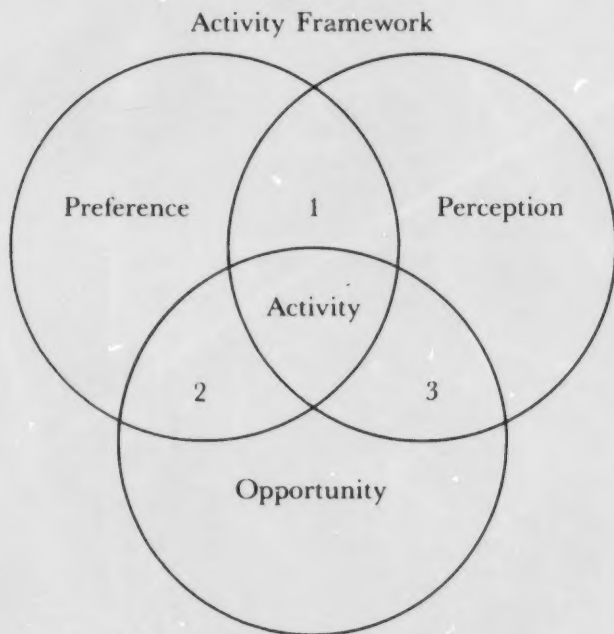
Behavioural Framework

The foregoing, cast in terms of urban modeling, provides a framework for much behavioural modeling. The outer limits on possible individual behaviour are set by the objective spatial structure, the actual locations of all potential activities and their associated objective levels of attractiveness. Thus for example, for job seekers the objective spatial structure would be comprised of all potential employers. The potential limits imposed on behaviour can be relaxed by a widening or expansion of geographical and built space and by increased temporal availability. The objective spatial structure of the job seeker is greatly enhanced if he/she expands the geographical limits by considering moving.

Falling well inside the boundaries imposed by the objective spatial-temporal structure are three limiting sets, the interaction of which determines the actual "activity set" of the individual. These are the preference set, the perception set and the opportunity set, Figure 2.

The preference set consists of those elements of the "objective spatial temporal structure" for which the individual has a "predisposition". As Chapin

Figure 2



and Logan argue, "... each single episode is seen to be the output of the choice process, where the input consists of some set of values the individual holds" (Chapin and Logan, p. 308).

Considerable work is required to identify the determinants of activity preferences. To date preferences have generally been inferred from overt behaviour. Where attempts have been made to measure rather than observe or estimate them, concern has generally been with preferences for specific sub-systems, shopping, travel, residential, etc., many of which have been examined extensively.

The second set is the perception set, "the source of our phenomenal experience of the world; ... [which] provides us with a guide to action in the environment" (Ittleson, 1974, pp. 122-123). "It also plays a role in limiting behaviour. The failure of individuals to perceive all potential opportunities can greatly reduce their ability to utilize available elements of the objective spatial structure.

The third set required to establish the boundaries of the activity set is the opportunity set. While the opportunity set has been seen as "the location of opportunities for interaction for each activity" (Brown, p. 103), it must be broadened to include the temporal as well as spatial dimension. Effectively, the boundaries of the opportunity set can be viewed as being constrained by the capability, coupling and authority constraints identified by Hagerstrand, and the temporal-spatial fixities of Cullen.

Given these sets it can be seen in Figure 3 how each may restrict actual activity. Thus, for example (1) indicates an intersection where an individual may prefer a given activity and perceive its availability but due to lack of opportunity, for example because of coupling or time conflicts, cannot engage in it.

An individual's activity set, viewed in this framework, can be seen to be a function of his preferences, perceptions and opportunities. It is against this background that actual behaviour should be examined, evaluated, and modeled.

Set Elements

The elements of an activity system of major interest to urban modeling are actors, activities, time and space.

(1) *Actors*. Actors are simply the group whose spatial-temporal activities are being considered. The significance of sex and employment status in determining the activity patterns of individuals pervades the literature (Converse; Clark and Harvey; Stone). Given the constraints imposed by an individual's place in (a) the family structure (primarily sex-determined), and (b)

the society work structure, and, given the fact that approximately three-quarters of all activity episodes are routine (Cullen, 1975), it appears most fruitful to begin an analysis of behaviour patterns by focusing on groups primarily determined in terms of employment status and sex. Additionally, the identification of such groups is generally rather straightforward, so they provide an operational starting point for activity analysis. A more refined categorization might identify separately housewives, pupils, students, and retired persons, thus extending the breakdown of those traditionally treated as unemployed. Further work may well lead to other useful and relevant sub-groupings. Whatever categorization is used, it should:

- a) reflect meaningful differences in activity patterns,
- b) be operational in that its components can be readily identified for any subject area, and
- c) be capable of aggregation to provide meaningful area aggregates.

(2) *Activities.* Activity definition and identification are extremely difficult in that activities are multidimensional (Scheuch, p. 78). The typical approach to date has been parallel to that used to define regions for regional development, adjusting the criteria or boundaries (and, thus, definitions) to fit the problem being examined. Serious activity analysis will continue to suffer until appropriate taxonomic methods of schemata are developed, possibly along lines similar to those developed for industries, occupations and commodities. To date the coding approach of the multinational time budget project has been the only one to provide any orderliness (Szalai).

(3) *Time.* Time has at least three dimensions which are relevant to modeling. These are: position, the point at which actions occur (for example, weekday or weekend, morning or evening); duration, the period during which actions occur; and direction or sequence (before or after, past, present or future). Each of these dimensions is relevant to behavioural modeling since each can affect, or be affected by, planning and design considerations. Beyond these, Lynch (1972, pp. 76-77) has suggested seven dimensions along which time structure can vary, while Parkes and Thrift (pp. 654-655) also suggest a number of dimensions. To develop an operational model, however, the number of dimensions incorporated must be kept at a minimum.

(4) *Space.* Space has three distinct aspects of immediate relevance. Geographic or banal space represents arrangement and expanse — what is commonly thought of as form. Adapted space is concerned with locations which have, through design, development or mere habitual use, become the sites of continual, regular or recurring activities (e.g., home, theatre, skating rink). Channel space serves to link adapted spaces, permitting linkage of activities within the city (e.g., streets, paths, walkways). As suggested by the intriguing title of Lynch's book, *What Time is This Place?* (Lynch, 1972), a space is

not only a geographic location, it is a "temporal location" as well. This is clearly reflected in such terms as "daytime population" or "bedroom community". Temporal location of a site may be established by any or all of the three temporal dimensions discussed above.

The foregoing set elements are particularly relevant to urban modeling. Additional elements consisting of such things as social contacts or various subjective dimensions of activities, may be useful in modeling for other purposes such as manpower planning.

Summary and Conclusions

Employment variables are of major importance to both policy makers and individuals. As collected, however, data do not typically reflect the true productive activity of the economy. They reflect only production occurring for pay in the market economy. Thus it has not been possible to evaluate the size of the total labour pool or the actual effects of various policies on it. In order to fully address questions of individual attachment to the labour force and productivity, as well as quality of work life and quality of life in general, it is necessary to have an exhaustive accounting of time use.

Time budget methodology currently provides the best approach to obtaining relatively useful and complete time use information. It not only records time use but through the incorporation of various dimensions puts it in context. Behavioural research such as the activity systems approach to urban modeling suggests that behaviour as measured by activities in time diaries is a function of the opportunities to engage in the behaviour, the individual's perceptions, and the individual's preferences. The exploratory nature of the work in urban modeling suggests some of the complexities inherent in analysis based on time use data and underlines the need for an in-depth look into the determinants of behaviour and into the identification and definition of the salient system elements.

Time use information, particularly supplemented by relevant attitudinal measures implied above, can potentially provide useful insights into individual behaviour in many areas including job market behaviour. It will shed light on the real and imagined constraints imposing on people. Real constraints can be addressed by relevant programs, while imagined constraints can be addressed by informed counselling.

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Social Services and Career Counselling

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The Counselling Foundation of Canada, formed in the late 1950s, has been concerned with the provision of grants designed to improve the quantity and quality of counselling services.

In 1979 the Foundation funded a project at Niagara College which, for the first time, did not provide direct service or academic counsellor education. The Niagara project was concerned with breaking through agency isolation while identifying specialized needs of a variety of populations. Career counselling was seen as a package of skills which would be useful to the social service workers in a variety of fields. It would certainly make them more useful to their clients and would, because of the broad base of career counselling, tend to encourage the worker to be less hampered by the narrowness of focus so often associated with specialized agencies.

Niagara's initial step was to do a comprehensive survey of the counselling services in the area. The results indicated that the populations were already well served by professionals. These professionals indicated a need for career counselling services within all their client populations but that a new community service dedicated just to career counselling was not warranted as existing agencies already had established contact and extensive records on the potential population.

Overwhelmed at the rapidly growing number of professionals required to assist a person in the rather natural process of growing up: maintaining oneself as an adult, growing old, etc., I welcomed this opportunity to see if the professional maze could be simplified slightly by combining the skill of career counselling with existing professional groups. Although I believe the function of career counselling is important, the term "professional" seems to be in danger of losing the meaning of a way of working and becoming merely a legislative form of income protection. As I work in the human service field, I am particularly aware of this in the rapidly growing number of services available. The existence and availability of these services is essential. However, a necessary skill in today's world appears to be the ability to identify and find the appropriate professional.

The first pilot study consisted of six sessions with Workmens' Compensation and Social Service workers. Since my career counselling experience was most recently with university students it seemed reasonable to assess the group's views of career counselling needs for their client population. It is true

that the prevalent view of career counselling was once to "find the right job for the right person" — square peg in a square hole. Much of our occupational information is still written with this view in mind. "If you are the kind of person who — you should consider this job." When we asked our social service people what they imagined career counselling to be, most of their answers reflected this image of square peg = square hole:

- 'helping to instill motivation and matching the right job to the right person'
- 'assessing the client's skills and aptitudes'
- 'imparting information regarding a certain career or occupation'

When asked what their career counselling goals would be for their clients, their answers suggested the same square peg approach which automatically requires that the counsellor be able to identify both the square person and the square job.

Typical answers were:

- 'matching an individual with the job that best suits him . . .'
- 'to place individuals in the job which best suits them'
- 'to place individuals in jobs which are compatible with their skills'
- 'to get the client off welfare'

Perhaps one of the most interesting aspects of this project was that it brought home clearly to me how confused was our understanding of career counselling. The social service workers involved in the project had a client load because these clients were unable to maintain themselves for any reasonable time at levels of employment which would provide for their financial needs. It was assumed career counselling would change that. It was assumed that a job existed for each of those clients — all we had to do was identify it and their problems with unemployment would be solved.

I could not resist checking their perception with the perceptions of university students seeking career counselling and found that they too had a similar image:

- 'they will be able to tell me what occupation I would be good at'
- 'maybe I have some unidentified talent which they will be able to uncover'
- 'I expect to be given tests which will tell me what I should do'

This belief that jobs and people are made in heaven and the task of the adolescent is to find his heaven-designed career seems to be unbelievably prevalent.

This, then, appears to be the prevalent view of career counselling, despite the fact that functions we refer to as jobs are changing at a phenomenal rate. I suspect that it is true that each of us has a "leaning" toward certain kinds of activity. No doubt the human race has survived because of individual differ-

ences and a vast variety of combinations and interactions of genes and life experiences. But man also has the additional capability of individual adaptability. I prefer to believe that the process of choosing a vocational identity is in itself a period of growth, learning, and change, made possible by our adaptability. It is a counselling process subject to all the requirements of any other kind of good counselling. Any counsellor must take with him/her into any counselling relationship the basic components of effectiveness:

- a high level of mutual respect and trust
- the freedom to discuss comfortably all relevant factors
- sufficient counselling skills to help the client identify and resolve the barriers he perceives to his growth, and accept responsibility for his life and take charge of his career.

The social service workers quickly accepted the more interesting growth view of career counselling. Given that career counselling is a growth experience and that the human being is adaptable and creative in his ability to organize and manage himself, what strengths in the field of career counselling do social service workers have? Are they appropriate career counsellors for their client groups?

1. They (the social service workers) have access to a well-defined population seen by society as in need of career counselling.
2. They meet their clients on a regular basis for significant periods of time (at least one hour).
3. They have extensive objective information about that client's occupational and personal history plus a view of his real life situation.

What do they have going against them?

1. They have, potentially, a strong negative impact on the financial welfare of the client. For all practical purposes, the social service worker cannot increase the government payments but their reports can jeopardize them. All members of the group were sensitive to this and felt it adversely affected their work, even within their present function.
2. Our social assistance systems require documentation of all exceptions. For example, exceptional diet needs require medical documentation. For reasons acceptable to us we require professional evidence of need. The statement of the client carries no impact, (somewhat similar to a child's need of a note from home to explain absence from school).
3. All social assistance allowances seem to be set at a subsistence level. Our assumption seems to be that these people do not want to work. We provide a level of payment which provides for the basic necessities of life but prevents any sense of comfort or luxury. There is one exception to this situation and that is the case of the single parent with several children. It is possible that the financial benefits she receives would be greater than her

skills could command in the labour market.

How to these factors relate to the basic requirements for effective counselling of any kind?

1. Trust: Is it realistic to ask clients "to trust" someone who, potentially, can jeopardize the extent of financial security the client does have? The areas of trust would have to be sharply defined and perhaps might translate into "Do not tell me how you are managing your life now without first making sure you are not transgressing any regulations". There also seemed to be a tendency in the social service area to prepare reports. I had the distinct impression that filing reports was a high priority activity. I think there is a danger here of identifying counsellor achievement by a complete set of records which may reflect simply referral of clients and their problems to other professionals and specialists. Can clients trust counsellors who work in a system which unintentionally creates a somewhat ambiguous counsellor objective: to deal with the client or to help the client deal with his problem?
2. Documentation of exceptional needs sends the client to another professional to obtain documentation of the client's need. Even recognizing that this is a procedure dictated by record-keeping, etc., does it in any way influence the client's self-image as a person responsible for his own life and competent to take charge of his career? Or, rather, does it reinforce the idea of powerlessness, dependency, and inadequacy? How does this influence the counsellor effectiveness?
3. Social welfare payments are naturally set at a minimum. We cannot argue the necessity of that. Yet, is the subsistence rate seen by the client as a punishment for being in difficulty? Does anyone love an employer who always pays the lowest possible wages? Dickens created a dim view of Scrooge. There is naturally a great disparity between the social service worker's salary and the client's level of payment set by the social worker. Would this situation cause unnecessary tension in the counselling process?

Another major problem was disparity between the skills of the social service workers and the needs of their jobs. I am convinced that each member of the group originally accepted their position as a social service worker because they saw it as a way of effectively helping people. They were highly motivated to help their clients. They met daily with people with a multiplicity of needs: the social service workers referred to themselves as counsellors and they understood their job function was to provide their clients with the help necessary to get them off government rolls. Yet, in my view, not one of them had the basic counselling skills necessary to obtain a career counselling position in a university counselling service where they would be dealing with the

least needy and most advantaged group in our society.

The social service workers themselves appeared to need some help in professional development. Their own goals and the goals of their agencies seemed to be lost in vague platitudes. However, they had not lost sight of the needs of their clients. It was clear that the needs of clients, the needs of their agency and their own professional needs presented an overwhelming pattern of apparent contradictions.

In my opinion, these social service workers were already undertrained and overloaded. Considerable time in the sessions was devoted to clarification of the goals of client agency and client, and the relationship of these goals. This was, perhaps, the most significant part of the sessions.

Yet these individuals, on the verge of burn-out, still arrived at 4:30 p.m. to spend three to four hours learning about career counselling. I understand that supervisors reported that morale in the offices where these people worked went up as they identified more clearly their role and the built-in restrictions on effectiveness.

What factors have to be adjusted if these social service workers are to maximize their effectiveness and help their clients make the necessary attitudinal changes to identify and implement realistic career decisions?

First of all, they must be more highly trained in basic counselling skills. I am a career counsellor rather than a personal counsellor because my objectives and the objectives of my clients are career oriented, not because my basic skills are different. Making a career decision is a very personal matter and requires a public declaration of that decision. In career counselling, particularly with this disadvantaged client group, many highly personal issues have to be identified and resolved as an integral part of the career counselling process. The social service worker has to be both willing and competent to deal with them.

Secondly, case loads would have to be realistically evaluated. Good counselling is both time and energy consuming. Intelligent time saving comes from careful study and adaptation of effective short-term therapy techniques and improved counsellor training, not from increased case loads.

The financial relationship between the client and the social service worker I saw as the most challenging and rewarding obstacle to be overcome. How can we develop an open, trusting, rewarding relationship with our client when we know he knows that his present financial security is dependent on our report?

At first I felt this was impossible, but counsellors in private practice accept fees. Psychiatrists must consider it an aid to effective treatment since they often bill the patient. Just because the flow is reversed, does that make it bad? Money is an aspect of the reality of the world we live in. By being very clear

from the beginning of the counselling relationship regarding the rules and limitations of confidentiality and its relationship to funding, it is conceivable that it could be done and be a positive force. It would be a counselling issue which would have to be thoroughly and creatively discussed in the counsellor training.

You could say the social service worker had a vested interest in getting his client off government support and this is true. But then I, too, have a vested interest in seeing students make decisions and get and *keep* jobs. If they don't, I have to take another look at my career counselling or my clientele. This, in my view, is a legitimate vested interest.

By providing career counselling training, we would give these workers another skill which appears to be consistent with their view of their role. Right now the burn-out rate seems very high. This group was on the verge of it but they had not burned out, they were still trying, under what appeared to be very difficult conditions. Their concern for their clients seemed to be genuine and sincere — that goes a long way in any kind of counselling. But concern must be backed up by knowledge and skill.

Another reason for this group doing career counselling is the need for the recognition that career counselling will not cure unemployment or make the unemployable employable. It will not change the reality of the economic situation or the reality of the ability of the client.

We are moving toward using more technology in our methods of getting what we call "work" done. Women who work in offices will be replaced by electronic do-dads. Maybe, one day, we will not need offices as they now exist. The jobs that are evolving seem to be fewer and more highly skilled. Many of us do not have the aptitudes to learn these emerging, highly technical skills. Many of us will, perhaps, be released from toil. Many jobs are toil, and the prospect of a machine, electronic or mechanical, producing the wealth for me is rather acceptable.

The prospect of developing new systems to distribute wealth and power is, I admit, rather intimidating. But perhaps those new systems have been developing for some time. A nurse recently told me that a car spray painter was paid more than she was. She did not approve. We all have strong views of the recent post office settlement which seemed to go against our time honoured methods of distributing income. Yet most of us see little relationship today between work performed and financial reward. We are perhaps already functioning in a new system.

The definition of employable is certainly going to change. The meaning of "unemployed" is going to change. These changes will, no doubt, themselves create new occupational areas and will certainly influence the development of what we now call career counselling.

By helping the social service workers, who perhaps are *now* working with the beginnings of what will become a much larger group, we will have an opportunity to develop some of the information and skills which may be invaluable in the not too distant future. Certainly the ranks of the "unemployed" seem to be swelling. We, as career counsellors, must be alert to these changes in employment patterns and be prepared for the trends that seem to be developing.

Routes to Community Interaction

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There were times before there were specialist career educators and counsellors; there are societies in which there are not yet any. Such times and such societies, it seems to me, are marked by the stability of the life which is handed from generation to generation. The life and work of the children is much like the life and work of their parents — and grandparents. In such societies it is possible to predict with considerable precision what sort of life would be lived by a child from a very small cluster of pieces of information about that child. Knowing the sex of the child, and into which home he or she was born accounts for a great deal of what was — in any event — limited variance. Most of what that growing person needs to know could be learned at home and in the immediate neighbourhood of the home; by listening to and watching the people, in and around the home, working and living their lives; and by beginning to help from an early age. By such informal means rising generations were socialized into the knowledge and competencies needed for the performance of inherited lives; few had occasion to agonize about choices.

It begins to become necessary to think in terms of specialist help for people concerning such matters where the means of production, distribution and exchange are changing at a rate which makes the life and work of the children different from that of their parents. That cluster of changes is usually accompanied by movements of population: from rural to urban living, from town to town, from one culture to another, and — in some cases — from one country to another. The demands of labour economies change, and so do the informal attachments in neighbourhood and community which, formerly, had ushered people into their places in those economies. In such societies words and phrases like 'careers education', 'vocational guidance' and 'counselling' gain progressively wider currency. The first use of the term 'vocational guidance' is commonly attributed to Frank Parsons who established his agency on the eastern seaboard of the United States in 1908. The first employment offices were established in Britain in 1910, and a specific service for school leavers, the Juvenile Employment Bureaux, in 1911. The establishment of professional career counselling in France came a very few years later. The ushering of people into their futures was no longer being left entirely to informal processes of socialization built into

neighbourhood lives of the people. The enterprise was becoming professionalized.

But it has never remained static. The purpose of this paper is to try to disentangle and identify the main threads that have been interwoven into the work of helping people find their futures in cultures like Canada, the US, France and Britain.

It is not an easy story to tell. New ideas and techniques are continuously being woven into its fabric. But old patterns are not obliterated, they are elaborated, by new. The sheer complexity is symbolized by trainees in the work, who commonly experience considerable confusion concerning exactly what such terms as 'careers education', 'vocational guidance' and 'counselling' actually mean; indeed concerning whether they have any meaning at all. An example in Britain is the word 'counselling' which, when we exported it along with the Pilgrim Fathers to the New World, was thought to mean telling people what to do! When — some time later — we re-imported it, it was found to mean *not* telling people what to do! The acknowledgement of the changing and problematic nature of what we are involved in seems to me to be an important part of any adequate understanding of it. It leads me to urge trainee careers educators and counsellors to accept their own confusion; for the field is intrinsically confusing and anyone who is not confused by it has not properly understood what they have learned!

The remainder of this paper is given to an attempt to understand the work of four types of careers educator or counsellor. Each attempt will begin with 1. a description of the kind of work they do and the technique they use to do it. But at each stage some reference will be made to 2. the theoretical assumptions which have been used to justify doing it that way; 3. the changes in societies which have surrounded the introduction of that kind of work; and 4. the values or ideologies which have attached themselves to the doing of that work.

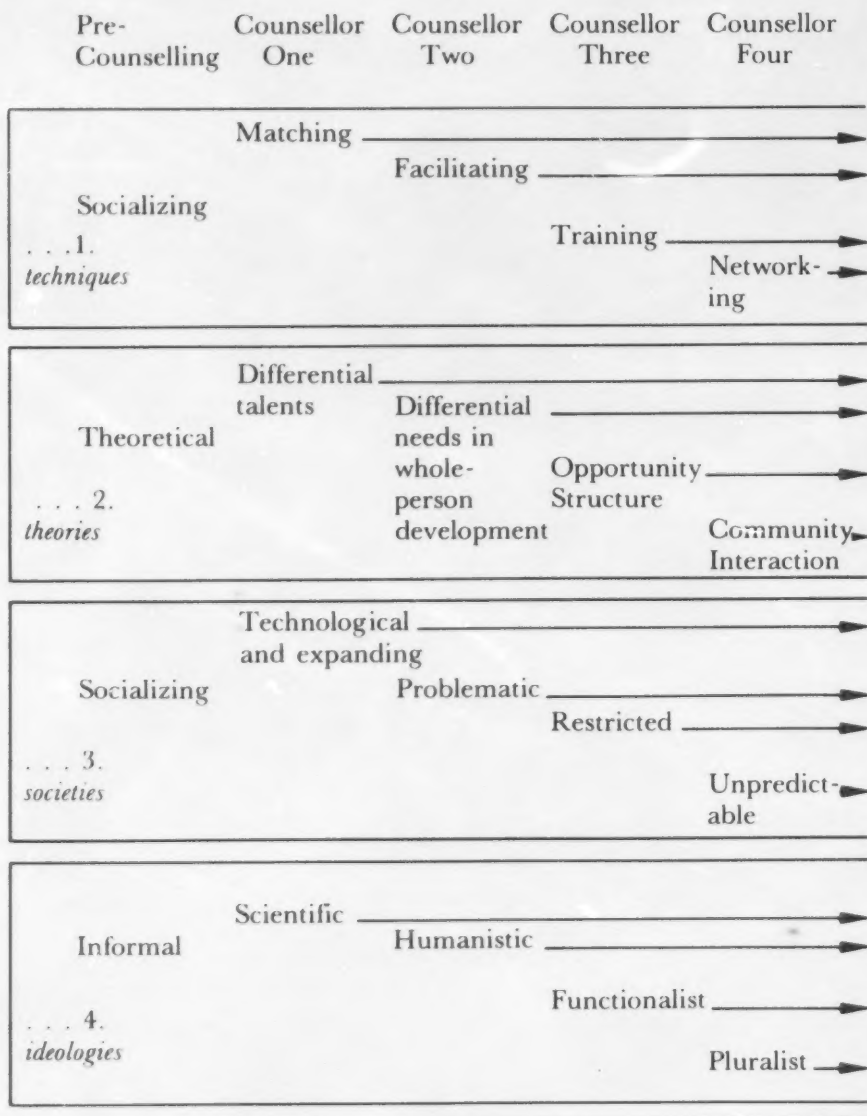
The story is told to indicate that we are dealing with an accumulation of ideas about careers education and counselling; an expanding coalition of ideas. Figure 1 summarizes the whole story; and it is drawn so as to suggest that what comes earlier in history is joined, not supplanted, by what comes later.

Counsellor One

1. *Matching techniques.* Counsellor One may well carry out the greater part of his or her work in face-to-face contact with clients. The focus of the counsellor's attention will be upon getting as accurate a picture as possible of what talents and potentialities this person brings with him or her to the working

Figure 1

Careers Education and Counselling: Coalition of Ideas About



world. The task, therefore, is to spot how this client is different from other people — where this person is more, and less, able than others, on a variety of different criteria which discriminate between individuals. The principal challenge to technique is diagnosis of what are sometimes called 'traits and factors'; and the counsellor has at his or her disposal a battery of psychometric techniques (now supported by computer facilities) to do that work: although a perceptive counsellor with sharp insight and good powers of assessment can frequently take a client much farther along the diagnostic route than any test or computer yet devised.

2. *Differential theories.* Like every other human action, the counsellor's actions are underpinned by some kind of theory, however untested that theory might be; which helps him or her to picture what is being done, to explain why it is being done and to predict what might come out of it. The theoretical assumptions justifying this approach to counselling action are that who does what in the working world can no longer be predicted by a person's location in a traditional 'pecking order' for jobs. It does on to expect that if we identify the employable characteristics of a person we will have a more appropriate basis for matching the person to a job. And, furthermore, it assumes that once that matching process has been achieved there will be an employment opportunity, of the 'matched' type, to which that person can go. It was first set out by Parsons in his Boston practice as three propositions which may be summarized thus: 1. people are significantly different from each other; 2. so are available jobs; 3. it is possible, therefore, by a study of both to achieve a match between person and job.

3. *Technological and expanding societies.* As a theory it sits comfortably in a labour economy rapidly changing under the impact of accumulating technology and drawn forward by expanding markets. Both the 'push' and the 'pull' in that situation have the effect of changing jobs, diversifying them and multiplying them; and the effect *ergo* of making it more difficult to decide on the basis of birthright who should do what.

4. *Scientific ideology.* The endpoint of the enterprise is to achieve an objectively valid match between person and work. A highly trained and expert counsellor is required to do the work. It is no surprise to find that a problem posed, in part, by an increasingly scientific society should be met by a similarly scientific response. And this thread in the weave of careers education and counselling patterns is by no means yet worn out. Within the last ten years an influential British publication in the field has re-worked the psychometric path to the task of what the author calls 'fitting men to jobs' (sic!).

Counsellor Two

1. *Facilitating techniques.* Our second counsellor might want to take issue with our first on the verb, subject, and object of that sentence! Later versions of careers counselling cannot be adequately characterized by saying that they are about 'fitting', about 'men' or about 'jobs'!

Counsellor two might, however, agree with counsellor one about the importance of spending a great deal of time with individual clients — although counsellor number two might be inclined also to invest time in small and large group work with clients. At the core of all that work is the task of facilitating clients in the exploration of their own perceptions, bringing them progressively nearer the point where they can say for themselves what they want and how they are going to achieve it.

So if counsellor number two uses psychometric techniques it will be in order to gain a response from the client concerning what the scores mean. And, in small and large group-work, counsellor two is concerned to set up relationships and interactions which are designed, not so much to inform, but to stimulate clients to say what they already know and feel, and to do what they can do. Clients are to be brought to the point where they have the learning in a form which can make the basis for their own actions in the world beyond the counselling relationship. In face-to-face work 'client centred' techniques figure prominently; in group work 'experiential methods' (including role plays, simulations and games) are prominent. In both cases the principal focus of attention is not what the counsellor says but the 'buzz' that comes from the clients, in response to the stimuli and situations which the counsellor's skill is concerned to provide.

2. *Phenomenological and holistic theories.* The assumptions which underpin the use of such techniques include the view that 'objective' statements concerning what is in and around clients are much less important than using the client's own internal and uniquely configured perceptions (sometimes called phenomenology) of what is in and around him or her. They include also a belief in the importance of paying attention not only to what the client has to offer (in the way of talents) to work, but also to what it is that clients need from their work. They cease to understand career choice as occurring at an isolated moment of time; but make linkages in a developmental understanding of how 'tomorrow's' choices rest upon 'today's' learning, which — in turn — is grounded in the readiesses laid by 'yesterday's' experiences. They conceive a continuous process of growth. And they acknowledge the importance of understanding that when a person chooses a job he or she is choosing much more than a job; the choice is of a life-style, a future identity

of which the job is but a part — often quite a marginal part — of a greater whole.

We are talking here of ideas articulated by Carl Rogers, Anne Roe and Donald Super. Their first impact was felt in North America during the 1950s. Together they yield a changed basis for action; one which invites an understanding of career development in terms of whole persons, each uniquely responding to his or her own feelings, needs and growing experience, in his or her own personal and active reach for a whole self in an owned future.

3. *Problematic Societies.* The ideas took root in societies which were progressively becoming more of a problem to themselves. By the 1960s technological advances in communication and transportation had put more cosmopolitan voices in each ear and images in each eye than had formerly been imaginable. There was a consequential awareness in our societies of the relativity and vulnerability of their traditional cosmologies. Official, traditional, stereotyped and established ways of representing reality to the people become profoundly suspect. Societies no longer thought of themselves as supported by a single moral spine transmitting a coherent set of moral messages. In such societies thinking about career development, which — like scientific matching theory — looked as though it could be used to fit people into unproblematic slots in society, also became profoundly suspect. Where such a ferment of doubt and re-examination was sufficiently pervasive there was a high degree of readiness for ideas which invited counsellors to think about career development in terms of each individual developing in response to a growing, unique, feeling and whole sense of self — a self concept.

4. *Humanistic ideologies.* The endpoint of the work was to establish such cleared lines of communication with the client that free and open exploration was possible. Where the counsellor was in such a relationship with the client everything was thought to be as good as it could be. And this was not just a matter of applied technology, it was a matter of ideology. It was a dewey-eyed and soft-spoken counsellor who was to facilitate the release, the true humanity of each individual in a society which was increasingly thought of as eroding, corrupting and blocking the realization of that humanity. Trust was in the essential goodness of the person who needed, therefore, to somehow be released from the 'oughts' that were arbitrarily thrust upon him or her from outside. The ideology was humanistic.

Counsellor Three

1. *Training techniques.* In order to build up a justification for counselling we need not, until this point, go beyond psychology. Most of what is known to

support the activities of counsellors 'one' and 'two' can be drawn from differential, developmental, counselling and humanistic psychology. But if our third counsellor has a professional library the spines of his or her books will at least as frequently bear the words 'social', 'sociology', 'economy', 'future' and 'futorology'. Like counsellor two, this counsellor will work with groups; but the groups will be designed to inform clients with knowledge of what is happening to opportunity structures, and to consider predictions — including warnings — concerning what seems likely to happen in the future. Much attention will be paid to social and economic pushes and pulls which will affect the life chances of the client, but which are substantially beyond his or her control — and, for that matter, the control of the counsellor. The work of careers education and counselling is the work of helping the client to equip him or herself with the skills needed to cope with that change. A great deal of emphasis may be placed on developing the skills of searching for the opportunities that do exist, of 'looking good' to the employers that are still hiring, and of settling into a new job as readily and quickly as possible. More radical counsellors will also want to work on the skills associated with finding, developing and keeping 'work' outside of conventional paid employment; entrepreneurial skills, for example, are finding their way into group agendas.

The difference between the sort of work done by counsellors two and three is subtle but significant; it hinges on the third counsellor's belief that society and the labour economy are requiring more of people than, left to themselves, they can adequately anticipate. They need to be trained. Much of the work of such counsellors is now subsumed under the heading 'social and life skills'.

2. *Opportunity structure theories.* The freight for the theoretical assumptions underpinning such practice is, therefore, rather more sociological than psychological. Sociologists interested in career development have typically argued that people do not choose jobs in any meaningful sense, they take what is available; all the major determinants of occupational status lie outside the individual, found in the currents of socialization and the vortices of the labour economy. An adequate account of how who does what is decided can be given, it is contended, with little reference to the wholeness, uniqueness, needs or personal view of the individual person. Theoretical formulations of the view often took the form of attacks upon the psychology-bound theories of previous generations of counsellors.

3. *Restricted societies.* And to many they seemed to bring a breath of astrigent air into a discussion clouded by the obfuscations of introspective psychology. There is, in particular, a high degree of readiness for such views in societies whose labour economies are in relative contraction. Restricted job

opportunities make words like 'career choice' seem increasingly silly.

4. *Functionalist ideologies.* People begin to think of the relationship between person and society not so much in terms of what it is that the individual psychologically needs from society, as much as in terms of what it is that society functionally needs from the individual.

Much of the heat in the ensuing debate was generated by the fear that, in the face of the currents and vortices of such social and economic realities, there was little that counsellors could do to help. Sociologists of the functionalist school have been known to counsel counsellors to cultivate 'a due sense of modesty'. But professional helpers do not like to be told that they can't help much; and the move towards informing and coaching is, in part, an expression of a professional commitment to do something to help people function as best they can in the face of the appalling consequences of the loss in society of much of its paid employment.

Counsellor Four

1. *Networking techniques.* Our fourth counsellor takes the view that any professional group which thinks that it can, single-handedly, help individuals into their futures is suffering from a bad case of delusions of grandeur. Counsellor number four spends less of his time with clients, more trying to establish a network of links with other sources of help in neighbourhood and community. Such a network of contacts will not only include other professional and para-professional helpers it will contact all the informal sources of help that can be found from people in society who are carrying between their ears the accumulated knowledge and skills which come from 'being there'. So clients can meet, talk with and watch people who are now striving with what they — and the counsellor — can only incompletely anticipate or understand.

To take the hardest of all possible cases: a young black female living in an inner city might, in such a network, be put in touch with a black woman who found that the limited life and skills which are stereotypically (and sociologically) predicted for the likes of her were not all that was actually available to her. She has found, tried and proved that alternatives are possible. It does happen. And the only real way young black females in inner cities can know that is not to read it in a book (which they probably wouldn't read anyway) or hear it from a counsellor (who probably cannot really understand it) but to meet somebody who has 'been there'. There is not much to be learned about being there by sitting here. The technique is sometimes called 'experience-based learning'; and work experience is — of course — one (but just one) example.

2. *Community interaction theories.* The theoretical underpinnings of such acti-

vities is articulated from an accumulating body of research information (summarized in Law, 1981). It suggests that youngsters approaching and accomplishing school-leaving attend neither to the massive events in society-at-large focussed upon by functionalist sociologist, nor to the processes of introspective psychology celebrated by humanistic psychologists. They pay attention to people they know in the 'working world' (however broadly or narrowly conceived that term). The evidence suggests that life-planning and life-preparing is undertaken in interaction with a range of social encounters with members of the community in which they live out the major events of their lives — often their 'patch'. The community may be defined geographically and locally; but it may also be defined socially, in terms of the actual and potential encounters a person may seek across a city, a province, a country, or the world.

Encounters so-far fairly thoroughly documented include those with family, neighbourhood contacts, peer group, teachers and members of own ethnic group. Learning processes so-far identified in such encounters include the acquisition of: 1. feedback on one's own behaviour; 2. support and encouragement to strive; 3. models to provide targets for striving; 4. information and impressions concerning what it is like to be in the working world; 5. expectations concerning what is required or preferred in one's behaviour; and 6. contacts through which opportunities can be located.

Outcomes in behaviour attributed to such learning encounters include living which is: 1. more purposeful; 2. more striving; 3. more assertive; 4. more exploratory; 5. more informed with alternatives; and 6. less anxious.

One way of thinking about the role of the careers counsellor is to think of him or her as, in some sense, a bridge standing between the individual and society. The matching counsellor 'one' is clearly in such a role; and accepting a great deal of professional responsibility for how that encounter between individual and group is to be resolved. The facilitating counsellor 'two' is concerned to gain a full and responsive representation of the client's approach to society. The training counsellor 'three' is, conversely, seeking to represent to the client as clear a view of society's confrontation of the client. The networking counsellor 'four' is adopting quite a different role. His or her work is to use the existing natural and organic means by which society and self are brought together — the community. He or she seeks to enter into symbiotic relationship with the encounters, processes and outcomes for learning which people already have; and to extend that range of contacts for each client so that more diverse learning can be achieved.

3. *Unpredictable societies.* The idea of using a diverse network of contacts to generate alternatives is an appealing scenario in many contemporary societies. A combination of steeply rising unemployment figures, an accelerating

rate of change in the range of opportunities that the labour economy offers, increasing rates of social change and technological development; all are conspiring to thrust on the peoples of our societies, at best puzzlement, at worst threat, concerning the future. It is not only that we also know that the lives of our children will be different from their parents; it is that we also know that we do not know in what ways their lives will be different. Change has become self-begetting. In changes brought about by flood, war, recession of failed harvest there is the possibility of abatement and recovery. But we now see change to be cumulative and irreversible. The situation is very hard on people who seek simple, abiding and unambiguous solutions to life's dilemmas and demands.

The sense of threat is pervasive; reflected in the mistrust of inaccessible legislative, executive and commercial monoliths which seem to threaten the purity of our living space and to erode any residual capacity we have to influence our own destinies. We see swathes of time being imposed upon those who will not be required for paid employment — time that we are not sure we know we are going to know how to use. It is linked to our sense of the growing capacity of a scientific and technological elite to take actions with — intended or unintended — consequences which terrify our imaginings. We no longer believe in the inevitability of progress; and we are looking for alternatives.

4. *Pluralistic ideologies.* The imagery of networking — with its multiplicity of linking, lateral and extendable connections — fits well with the thrust for alternatives. It fits better than the imagery of bureaucracy — with its emphasis on tightly-bounded responsibility and limited opportunity for communication outside pre-determined channels. If ever there was a time for careers education and counselling *not* to fall into the trap of bureaucratized and protected exclusivism, laid by so many of its brother and sister professionals in the field, that time (argues the networking counsellor) is now! There have to be other ways; the ideology is for putting careers education and counselling into touch with the plurality of those other ways.

It has been argued in the past that the use of exclusively psychological models for careers education counselling will lead to the 'cooling out' of clients into the acceptance of what is socially defined and available. It has also been argued that the use of exclusively sociological models should lead any half-decent counsellor to argue for a radical change in the way in which our society is organized. Networking, with its use of a variety of perspectives taken from a range of personally-encountered alternative perspectives, within a recognizable community, appears to provide our profession with a theatre and scenario which offers a viable pluralistic alternative to both ovine

compliance and bloody revolution!

In Conclusion

I have, of course, overdrawn the distinctions between counsellors 'one', 'two', 'three' and 'four'. Most counsellors adopt a combination of roles. A networking counsellor who does not use his or her technical and facilitating face-to-face and group work skills to help clients unpack and reflect upon the experiences they acquire in contact with the network is only doing half a job. It is a moot point whether the kinds of attitudes and skills which best inform the development of a community interactive network are likely to be found in the same person who prefers working in intimate and responsive relationships with individuals and small groups of clients. But the whole accumulated repertoire of experience in counselling and careers education is relevant to the task we face in contemporary societies. Perhaps we are moving towards the development of teams of helpers who, together, provide the networking, training, facilitating and matching services our clients need. What is clear to me, however, is that one of these services — unsupported by the others — will not do.

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The Distinctive Contribution of Vocational Guidance

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For some time, I have been giving attention to what it is that distinguishes the contribution that vocational guidance makes to our society from the contributions made by other occupational groups. This morning, I would like to invite you to join me on a stroll through some of my imaginings on the subject. But I attach one condition to my invitation — that you trust me not too much as your guide. The reason for the condition is that what I have to offer is not an analysis of theoretical considerations or an interpretation of data, but simply an examination of my own attempts to restructure (see Cassie, this volume) my thinking about our profession and its possible destiny. I would like you to entertain the prospect that your own thinking about the same issues might also be restructured. I think my invitation is a reasonable one, not because of confidence in the merit of the ideas I want to present, but rather because of confidence in your ability to think about familiar issues in unaccustomed ways, and perhaps, to find meaning in them that never occurred to me.

In undertaking the task I have set for myself, I find that I am faced with two uncertainties. In the first place, during this conference, my thinking about the topic has undergone considerable change. In a sense, I have learned a lot about what I want to say and how I want to say it. That leaves me with the feeling that the words I choose may not be as clear as I would like. For that, I seek your indulgence.

Secondly, I will be using vocabulary that is familiar to you, some of it the vocabulary that other presenters at this conference have been asking us to consider together. In particular, I will draw heavily on the distinction that David Tiedeman offered yesterday in outlining the progression from imagining, to thinking, to believing. I have added a fourth step at the beginning of that sequence, which I call "wondering." I think the distinction between wondering and imagining is a useful one. I am not at all certain that I believe it is. I hope it will serve well enough for today's purposes.

There is no need to warn you that I may be superimposing some of my own meaning on other people's words, but I would like to caution you to resist the temptation to let them fall too comfortably into familiar niches in your own cognitive structures. Mull them over; try them out in more than

one way; let them help you find some newness in your own imaginings. In this I seek your cooperation.

In proceeding through the topic under discussion, I will first report some preliminary ramblings. After that, I will set out some basic assumptions, describe what I see as the essential elements of distinctiveness, and then close with some remarks about possible ramifications of applying the formulation.

Preliminary Ramblings

It should not come as a surprise that, a couple of days ago, when I saw David Tiedeman for the first time in a year or so, that his opening question was, "How is your career progressing?" Without hesitation, I told him that I was reminded of Peter Druker, who once said, "Here I am 58 years old, and wondering what I'm going to be when I grow up." I have been thinking about Druker's comment a good deal lately, because I am 58 years old. An important aspect of such thoughts has been that I find it remarkable that I can, at my age, wonder about what I will be when I grow up.

There are two forces afoot that make it easier for me than it once was to think about growing up at my present age. The first, of course, is my own developmental experience. Having lived through the middle decades provides a very different perspective on human development. I can remember, perhaps 40 years ago, accepting the fact that one day I would be old, maybe even as old as 30. Then, 10 years later, as a graduate student in psychology, my expectation was that by about age 40 or 45 I would be fully developed and prepared to live out my remaining years in maturity. As convincing as the wisdom of personal experience may be, however, it is readily bolstered by professional credibility. Such credibility comes from the persistent efforts, over the last decade and half or so, of practitioners (e.g., Peavy, 1981; Schlossberg, 1980) who work with developing adults to direct our professional attention to more systematic study of adult development. Somehow, that professional awareness helps to make it respectable to think, even to talk, about growing up at my age. When I consider the options that lie ahead of me, and the opportunities they afford to explore so many exciting eventualities, I feel like I have discovered a new life stage called readolescence.

As much as I might like to continue talking about myself, that is not the task at hand. But my personal ramblings have not been irrelevant, either, for in them, I have taken Peavy's (this volume) notion that the interaction between counselor and client, the interview, is a microcosmic paradigm of our social macrocosm and applied it in a different context. The analog that I have used is that the conversations I have had with myself reflect the cosmos of our profession of vocational counseling, or at least, my perceptions of my place in

that profession. Just as I have wondered about myself and my growing up, I have wondered about how our profession is growing up as it, too, anticipates a significant birthday.

If you are willing to accept the traditional American benchmark — the 1908 founding of the Vocational Bureau by Frank Parsons (1909) — as the beginning of vocational guidance, then our profession will soon be celebrating its 75th birthday. We approach this 75th anniversary in a climate of severe economic uncertainty which brings a multitude of pressures to bear on our professional performance: some from within our own ranks; some from our clients or society at large; perhaps the most tenacious from the budget makers who finance our operations.

Considering these pressures together, as we approach our Diamond Jubilee, I cannot help wondering how the first three-quarters of a century of our professional performance will be judged by the society we say we serve. I wonder if our contribution will be judged a gem stone, irreplaceable and to be cherished. I wonder if our services will be viewed as a bagful of unassorted industrial-quality garnets, as interesting and quite useful, but not entirely essential. I wonder if we may be seen as having produced a handful of scattered flint chips, from which a carefully selected steel may yet strike a spark of worthiness. I wonder if our product will be deemed as nothing more than a small pile of useless dust, to be swept away by the next economic wind that blows down from Capital Hill.

As I have wondered about these various prospects, I have tried to imagine what would make a difference, what could possibly determine whether one rather than another of these alternative evaluations shall be our collective fate. I have tried to imagine what it is about our work that would permit our judges to think that what we do is as valuable as we believe it is.

Through these imaginings, and the thinking they have stimulated, I have come to believe that the true value of our contribution lies in its distinctiveness, that we will be truly valued to the extent that we contribute something that no other group of professionals is able or willing to contribute. I believe that if we clearly articulate that distinctiveness, and deliver on its implied promises, then (to paraphrase Katz, 1971) we will be able to persuade our clients and those who fund our enterprise that the services we offer are worthy of their support.

Assumptions

Before attempting to spell out the distinctive elements of vocational guidance, it is necessary to highlight some basic assumptions. They relate to importance, source, independence, and credibility.

Importance

The first assumption I make is that distinctiveness is important to our profession. Such importance is evident in our daily work and throughout our professional history.

In daily experience, the importance of the distinctiveness we seek is all around us. It is reflected in the job descriptions, written or not, that structure our work. It is especially detectable as task assignments are parceled out among specialists who work in the same settings as members of treatment teams. In my own experience, in fact, a large proportion of the interprofessional disagreements that I have witnessed have focused precisely on this search for distinctiveness. If our work were conducted in settings more dominated than ours have been by traditional labor-union orientations, I suspect we might be viewed as engaged in an interminable series of jurisdictional disputes.

A parallel concern for distinctiveness, at times, almost a preoccupation with it, can be identified in the writings of many of our leaders. From the early works of Meyer Bloomfield (1915) through Harry Dexter Kitson (1934) and John Brewer (1932), in the years before World War II, on to the post-World War II contributions of Robert Matthewson (1949), Gilbert Wrenn (1957), and Norman Kagan (1964), the effort to distinguish between what we and other specialists do is evident. I have selected these six figures as illustrations because World War II serves as a convenient demarcation point with respect to the impact of psychotherapy (see Peavy, this volume) on vocational counseling. Those leaders, whose major contributions preceded World War II and were relatively unaffected by clinical thinking, tended to treat guidance as concerned primarily with direct interventions in the educational and vocational behavior of clients; those whose contribution came after World War II attempted to treat the much broader ramifications of guidance which emerged under the influence of the psychotherapeutic ideas popularized during the war. Yet, both groups, the pre- and post-War leaders, seemed to believe that it was important to articulate, for ourselves and others, the distinctions by which our contributions could be singled out.

Source

In view of the combination of daily and historical interest in our distinctiveness, one might wonder why there has not been more success in resolving the matter. A major reason for the lack of resolution, I believe, is that we have not been looking for it in the right places. Some of our efforts have been viewed as trying to describe a territory to which we have no defensible claim. They have attempted to isolate the theory that "is ours" because we developed it, to protect the content we address from intrusion by others, or to

claim the clients we serve as "our property."

I have come to believe that the source of our distinctiveness cannot be the theory we use, the content we address, or the clients we serve. We have no right to be proprietary about any of these matters. If our theoretical formulations are sound, we should welcome the efforts of others to apply them. Various professional groups can facilitate productive career development in ways that we cannot. Our clients will seek help where they can find it, for better or worse.

Only to the extent that we offer a service that is not otherwise available to clients can we claim distinctiveness. On these grounds, my second assumption is that the source of our distinctiveness lies in what we try to accomplish.

Independence

Early in this conference, Bill Law (this volume) presented a comprehensive perspective on career guidance as it functions today. The four schemata he identified, in what he called a coalition of trends, characterized different approaches to the delivery of career development services. Each of them — the scientist, the humanist, the functionalist, and the pluralist — is, in my opinion, indispensable because of the conditions that prevail in some situations, especially where resources are limited or institutional environments are insufficiently supportive. Even though I prefer the one he called pluralistic, I have to recognize that the one I prefer may not be the most effective in all circumstances. Therefore, it would be an error to disregard the others when considering our potential to make a distinctive contribution.

Our thinking about distinctiveness has to transect the dimensions of Law's formulation, in ways that, perhaps, we have not thought about before. The elements of our distinctiveness need to be framed in such a fashion as to embrace any reasonably conceptualized schema for career guidance. Thus, my third assumption is that the elements by which we characterize our distinctiveness must be independent of the ideologies we endorse, of the postures we assume, and of the intervention strategies we employ.

In a similar vein, I assume that the elements must be independent of the settings in which our work occurs. It is self-evident, I think, that what we do distinctively has to be available to all the clients who need our services, whether they be in schools, colleges, factories, hospitals, rehabilitation agencies, correctional facilities, or somewhere else.

Credibility

My final assumption is that there is an important grain of truth in the often-cited accusation that people in our profession try to play God. The truth I see is not in the accuracy of the accusation. I think I have never known a counselor who really tries to play God. On the contrary, those I

know are more likely to feel impotent than omnipotent. The truth lies, rather, in our manifest response to the demands placed on us by others and by ourselves. Two conditions, which have been elaborated elsewhere (Bingham, 1973; 1974), I think, permit us to be perceived as if we believe we can do anything that is asked of us: we have done a less-than-adequate job of delineating those things for which we are willing to be held accountable; and (whether because of training or our personalities is not clear) we seem to be unable or unwilling to say "No" to a request for help, even when "No" is the only responsible answer.

Elements of Distinctiveness

On the basis of the assumptions presented, I have identified what I think are the essential elements of what we try to accomplish. Quite deliberately, the number of statements is few, and they are loosely framed. Within these loosely-framed statements, I believe, any practitioner ought to be able to build specific goals for programs and individuals.

The three elements that I see as characterizing our interventions as distinctive have been reported briefly elsewhere (Bingham, 1980) and have been incorporated into guidelines for comprehensive guidance services¹ (New Jersey Department of Education, 1980) which are now being implemented in New Jersey public schools. I call them integration of experience, compatibility of goals, and individual uniqueness.

Integration of Experience

The need for integration of experience is easiest to illustrate in the context of school programs. All school instruction is designed to foster pupil learnings in certain (usually specified) knowledge, skills, awareness, and attitudes. No matter how thorough an instructional program may be, a great deal of relevant learning occurs outside of school. For most young people, the opportunities for relevant out-of-school learning are particularly enormous in relation to their own career development. For one thing, they are much more likely to learn about job requirements, working conditions, supervisory relationships, and such from family members, peers, and acquaintances than they are to learn about academic subject matter. In addition, they are likely to participate in many activities, income-producing or not, such as running

1. I acknowledge the assistance of the New Jersey Department of Education Task Force on Comprehensive Guidance Services in thinking through the details of the formulation: Carol J. Turner, Hazel Davis, Richard Evans, Roslyn Gross, Holton Hackett, Madelyn Healy, Murray Itzenon, Bernard Novick, Thomas J. Rubino, Jacqueline Stefkovich, and Lillian Werenne.

errands, baby sitting, and part-time jobs that prove to be informative about some aspect of work.

Although the school may not acknowledge the significance of such events in the development of young people, they do constitute important learnings. When the chance is lost to integrate these and other out-of-school learnings, in combination with those things learned in school, into a comprehensive schema for self-understanding, the individual cannot reap the full benefits of thorough education. Rather than shun these pupil learnings, school officials should not only recognize their usefulness, but as Law suggested in his conceptualization of the pluralistic function in vocational guidance, should actively search them out and deliberately bring them into the school experience.

All individuals spend substantial portions of their lives in institutional settings where little, if any, effort is devoted to integrating extra-institutional experience into understanding of self. Failure to accomplish such integration limits the full realization of individual potential. A vocational counselor is in an advantageous position to help clients, whatever the setting, to examine the full range of their experiences, consider interactions among the events in their lives, and search out new meanings for themselves. By engaging in such activities, the stock-in-trade of good vocational counselors, clients can achieve a fuller understanding of themselves and their environments.

Compatibility of Goals

Although they may not be clearly in awareness, all individuals and all institutions have goals. If individual and institutional goals were always identical, then it could be assumed that both could derive maximum benefit from their association with each other. Experience teaches, however, that they are seldom identical, frequently not compatible, and sometimes in serious conflict. Left unresolved, these incompatibilities pose a danger of reducing, or perhaps, aborting, productivity and generating troublesome levels of dissatisfaction.

In their interactions with institutional structures, individuals need help in clarifying their own goals, learning how institutional goals affect their behavior, and understanding how the two sets of goals interact. In particular, they need help in sorting out which individual goals the institution can and cannot help them to meet. Furthermore, they need help in selecting strategies that will address all of their goals, whether pursued within or outside the institution. Vocational counselors are explicitly equipped by their training to assist clients with all of these tasks.

Individual Uniqueness

Each individual person is a developing human being influenced by a wide

range of circumstances and events that can occur during the course of a lifespan. Each brings to every new event a unique combination of constitutional predispositions, psychological potentialities, and individual history. Even though all human beings progress through the same life stages, the responses and reactions of each are unique. No matter how standardized or uniform, how fully planned or regimented, any sequence of experiences may be, each individual perceives a different meaning in them. No matter what the commonalities in human experience generally, each individual's perceptions of reality remain unique and shape that person's response to any situation.

In today's fluid, highly technological and computerized world, individual identity is being experienced as a fragile commodity by increasing numbers of people. The very fragility underscores the preciousness of individual uniqueness. By engaging in guided self-examination at the hands of a skillful vocational counselor individual clients can come to appreciate their uniqueness, to sift out which personal attributes must be implemented for satisfaction or success, to select less-than-desirable attributes for modification, to acquire competencies that are perceived as important, and to value their own individuality.

Recapitulation

The elements of distinctiveness described above, I think, meet all of the assumptions laid out beforehand: they do comprise authentic distinctiveness; they make no false claims to territory that is not singularly ours; they can accommodate a variety of schemata for program design without impinging on the work that needs to be done; and they provide a framework for delimiting what we are willing to be accountable for.

As a backdrop for the next section on possible ramifications of applying this formulation, it is appropriate to stipulate some beliefs and thoughts that underlie my conviction that the formation is a useful one:

I believe that work is the central organizing social force in human experience. In arriving at this belief, I have found it convenient to define work (see AVA-NVGA, 1973) in broader terms than simply paid employment, in broader terms than just engagement in the officially recognized occupational structure. In this broader definition, homemaking and participation in the "black economy" (unreported employment, so to speak), described by Bill Law, qualify as work.

I think the values and beliefs held by most vocational counselors can be accommodated within the framework of these elements.

I think that adequately trained vocational counselors have the skills required to work productively toward the goals implied in the statement of the elements.

I believe that people who choose to be vocational counselors find satisfaction in the knowledge that they have had a hand in accomplishing the implied outcomes.

Some Possible Ramifications

The inclinations that lead people to select vocational counseling as an occupation, the skills acquired through the training they receive, and the beliefs in human potential that they share constitute a rare combination of talents. This combination is peculiarly suited to implementing the formulation described above.

Vocational counselors are in a distinctly favorable position to provide opportunities for clients to engage in self-examination so they can reflect, unhurried, about themselves, the events they experience, and their place in the world they inhabit. By learning to examine the interactions among what they learn at home, in school, on the streets, in the workplace, and on the athletic field, clients can come to appreciate that the various roles they fill do not exist in isolation from one another. An alert counselor may use clients' own utterances about their feelings of uncertainty or search for identity (see Peavy, this volume) as a jumping-off point for self-examination which may enable clients to find meanings that reciprocate across the many roles they occupy. Comparing meanings across roles may enable them to select the kind of work that will add even deeper meaning to their own experience.

By attending particularly to cognitive activities (Peavy's) such as seeking clarity and searching for similarities, a skillful counselor can assist with the identification and clarification of personal goals. The same processes can be used with regard to institutional goals, so that compatibility can be examined. Later in the counseling relationship, the cognitive activities of forecasting change and testing for predictability might be applied to the establishment and evaluation of goal-implementation strategies. For those goals which need to be pursued outside the institution, employment of the community networks that Law referred to would be in order. Over time, it would be possible for some clients to master use of these networks on their own initiative, without professional assistance.

Through interventions of the kind just described, and others suggested throughout this conference, clients can learn to cognize their own experience so they become aware of their own development, participate in it consciously, and, in time, play an active part in managing it. In Tiedeman's terms, they would come to believe that they can indeed become empowered to control substantial portions of their own destiny.

The more adventurous among us, of course, will apply the same thinking,

the same strategies, to the analysis of their own performance. They will reflect on what they do, consider new alternatives, imagine undreamed-of methods to accomplish our common purposes, and decide to do what they believe is right.

As I wonder how we might respond to the pressures that bear upon us, I think it is too late to have much effect before that 75th anniversary which is so near at hand. I believe, however, that there is sufficient time to have a significant impact on the evaluation of our collective performance that might occur at our centennial celebration.

I believe there are several alternative responses we can make. I believe each of them has predictable consequences. For my observations on the options we face, I would like to engage a bit of the numerology that Dave Tiedeman introduced yesterday, particularly his concentration on the number three. Three is appropriate because of the three-fold talents I referred to in the previous section — our inclinations, our skills, and our beliefs. They are the tools we have to implement whatever choice we make among the options that lie ahead.

If we choose to respond primarily to the pressures that demand god-like performance, I believe that we will create a trinity with feet of extraordinarily crumbly clay, and it will topple before our eyes.

If we choose to submit largely to the economic pressures (which are certain to increase over the short term), I believe we will erect an authoritarian triumvirate that eventually will consume us by rendering our every action impotent.

If we choose to retire to the sanctified comfort of our traditions which build impermeable boundaries between disciplines, I believe we will strike a discordant triad, as a chord strummed on a badly out-of-tune guitar.

If we choose to rise to the challenge of earnest collaboration, among ourselves and with others of similar convictions, I believe we have the potential to compose a harmonious trilogy that will ring brightly across the land.

I believe the choice is ours.

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Research in The Development of the Assessment Component of Employment Counselling

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Introduction

The research done in the development of the assessment component of employment counselling material as an aid to employment counselling was completed very simply. Essentially, the following steps were undertaken:

1. the literature on employment counselling was critically reviewed;
2. a sampling of employment counsellors and their managers, consultants, and supervisors were interviewed with the purpose of ascertaining their considered needs regarding the CEIC mandate to provide employment counselling services; and
3. client files and CEIC documentation were examined.

Observation derived from the literature, from the personal contacts, and from client files could be summarized under the two general areas listed below:

1. public employment counselling services across countries of the world as they bear upon an understanding of employment counselling services in Canada; and
2. general difficulties experienced by individuals involved in providing employment counselling services in Canada.

Observations

Examination of the literature on public employment counselling services across countries of the world reveal an apparent "manpower utilization — human development" dichotomy. Such dichotomy tends to be expressed more often than not as an unspoken promise touching upon the dominance of

the prevailing attitude towards focus upon what is good for the society or focus upon what is good for the individual. Other variations of this same theme are: a talent matching focus or a human development focus; a focus upon adaptation of the client to the labour market or a focus upon integration of the client into the labour market; a focus upon what is best for the employer or a focus upon what is best for the employee. Stated in terms of the role of the employment counsellor, is the counsellor to assist the client to be placed in the job most beneficial to the growth of the client (and, thereby, at times not provide the best person to the employer), or is the counsellor to provide the best person available for the job opening (and, thereby, keep lower-ranked clients from employment)?

Such paired foci, although often viewed as opposites, really are not incompatible. Indeed, there appears to be greater wisdom underlying the more inclusive assumption that both the employer and the client are best served by assisting each client to reach his/her own work potential. That is, realization of personal potential results both in increased self-development and in higher production. It may be the observed economic/political pay-off obtained in following this more inclusive assumption that has contributed to the observed trend across countries to increased emphasis upon the counselling function as an important adjunct to the placement function within public employment agencies.

Another obvious situation that quickly becomes apparent in researching literature on employment counselling is the general paucity of easily accessible materials on the approaches, aids, and effectiveness of ongoing employment counselling programs. Such paucity may be explained partly by the fact that counselling is a relatively recent emphasis within most public employment agencies. It also may be due to difficulty encountered in agreeing upon set procedures within any one country or agency. Another reason may be that the individual drawn to the counselling role may tend to be one who, by nature or by choice, is more interested in "doing" counselling than in "writing" counselling. The recent impetus towards increased documentation within the Occupational and Career Analysis and Development Branch of the Canada Employment and Immigration Commission deals directly in remedying this paucity.

Still another observation from the literature is that the history of public employment agencies tends to involve movement over time from a placement service to a more active and vital delivery/support system with concern for effective placement. As just one example, the United States Employment Service was founded to place immigrant workers and now has extensive delivery/support systems across many employment related areas.

Turning to CEIC personnel involved directly (counsellors) and indirectly

(managers and counselling consultants) in employment counselling activities, such individuals would seem frequently to experience difficulty in describing the essence of the employment counselling function, i.e., have difficulty in conceptualizing the counselling process and lack common vocabulary. Difficulty is experienced also in assisting not-job-ready clients to take responsibility for their employment-directed efforts. The counsellors tend to situate themselves across a continuum of "hard-headed" to "soft-hearted" with too few individually able to effectively incorporate both components as required within their helping role.

Collectively, however, CEIC personnel possess a highly significant pool of wisdom regarding the world of work and the needs of individuals in searching, attaining, maintaining and progressing in their employment. There is need for greater dissemination of this wisdom.

A significant additional finding is the ready acceptance among CEIC personnel of any number of problem-solving models, i.e., models in which there is focus on clear delineation both of problem and of systematic exploration of alternatives, consequences, and action plans. The actual implementation of such problem-solving models, however, tends to be limited in scope and breadth.

In summary of the two general areas of observations, the following point-form outline is offered:

1. Observations garnered from study of public employment counselling services across countries of the world reveal:
 - a) an apparent "manpower utilization — human development" dichotomy;
 - b) a limited accessibility of printed materials;
 - c) a general evolvement from reactive placement service to an active delivery system concerned with effective placement.
2. Observations garnered from interviewing and observation of individuals involved in providing employment counselling services in Canada reveal:
 - a) frequent difficulty in
 - i) articulating the essence of the employment counselling function, and in
 - ii) assisting non-job-ready clients;
 - b) a collective wealth of wisdom concerning the Canadian job market and what is needed for individuals to search, attain, maintain and progress in the Canadian labour market both, as it is and as it could be;

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- c) a general acceptance of a problem-solving model in directing their work with employee-clients.

A logical question to follow is, "What action can be taken as a result of the above two general areas of observation?" The action steps are outlined in the following section.

Actions

The counsellor's/manager's acceptance of the decision-making modalities, combined with the frequently observed difficulty they appeared to have in describing the counselling function, led to feasibility of emphasis upon the clarity of structure of the counselling process. One clarity of structure is that of obtaining clarity of counselling goal or action plan tailored for each non-job-ready client.

The choice of such a step had both theoretical and practical significance. From a theoretical viewpoint, most counselling positions articulated in literature, both historical and current, support desirability of deriving clarity of problem/issue/concern to be addressed/focused upon in counselling interaction. From a practical viewpoint, the idea of obtaining clarity of goal prior to intervention, that is, knowing what it is you want to obtain before setting out to obtain it, has a common sense appeal and, thus, ready acceptance.

The desirability of the synthesis of individual needs and societal needs (employer needs and employee needs), plus the need to capture client responsibility taking, pointed to the need for a collaborativeness of counsellor and client in deriving the counselling goal or action plan. Such collaborativeness is based on a partnership stance underlining the active roles performed by the counsellor and client. The role involves mutual respect between equal beings of worth with differing knowledge sets, and, therefore, differing strengths brought to the relationship.

Part of the collective wisdom of the system referred to in the previous section involved the vast experience of employment counsellors regarding the employment/employability strengths and barriers of non-job-ready clients. This rich body of knowledge, however, had not been pulled together and disseminated. It was at this point that there was a re-examination of literature and a return to the dimension of the interviews with the counsellors dealing with the employment strength and barriers of the client. Part of this re-examination included the critical study of existing and possible classification systems.

One such classification that was considered is anchored in the traditional view of grouping clients on various "demographic" characteristics i.e., age, sex, years of schooling, time elapsed since last employment, length of last em-

ployment, occupational grouping, disadvantaged grouping (youth, Native, elderly, physically and mentally handicapped). Such grouping has proven to have some usefulness in describing and categorizing CEC clients in understandable terms and, indeed, it is probable that such information on CEC clients has not been sufficiently collected and disseminated. Notwithstanding the value of such "demographic" data, the information, thus derived, does not provide an adequate delineation of the actual problem(s), concern(s), or issue(s) to be resolved by the individual client in the client's bid for greater adaptation and/or integration into the labour market. Therein lies the difficulty. The challenge to the employment counsellor is to be able to individually describe each client in terms of concrete/specific behaviours or attitudes to be developed or overcome in the client's movement to higher levels of employability — such levels taking into account the skills and attitudes deemed necessary to function productively within a chosen job/occupation. That is, categorization in and of itself is of limited usefulness to the counsellor unless it is an aid for focus on specific needs to be met.

In highlighting the dominant requirements of the client in a systematic and professional manner, the counsellor more clearly can make decisions as to client problems within/outside the CEC and the counsellor's jurisdiction/competence and, thus, improve the efficiency and effectiveness of the actual services rendered. Likewise, clear explication of the specific counselling goals based on client need allows for clear understanding and realistic expectations on the part of the clients as to possible outcome of their efforts within the CEC.

In short, the challenge to the counsellor and client within a collaborative counselling relationship is to describe in concrete terms the specific job-related behaviours/attitudes to be used or to be changed in order to effect the client's movement to higher levels of employability.

Directed to that task, employment/employability dimensions were collated under the following headings: Motivational/Attitudinal, Emotional, Information, Socio-Economic, Physical, Educational/Skill and Miscellaneous. Miscellaneous.

This classification was based on the threefold criteria of:

1. relevance, i.e., that it reflect the concerns and values of the CEC counsellors and clients;
2. practicality, i.e., that it not require extensive recording;
3. collaborativeness, i.e., that it allow for counsellor and client participation both in determining the type and degree of employment/employability barrier(s) and strength(s), and in choosing the means to be used in the elimination/alleviation of such barrier(s).

The clear identification of the client's employment strengths and barriers is used as a preliminary step in the employment process. Such delineation allows for clarity as to whether the client services required are either within or outside of the mandate of the CEIC. If the required client services are deemed to be within the mandate of the CEIC, the sequential clarity is whether the provision of such services are within or outside the present CEC organizational structure and/or competence of CEIC personnel.

The challenge arising, however, was how to use the classification system derived (which was actually already existing in the collectivity), in ensuring that such a needs-identification system did not lead to a static view of clients and, thus, cloud the reality of employment counselling as a dynamic process. The postulate had been made, of course, that employment counselling is a dynamic transactional component within a coordinated and often multi-professional assistance to individuals encountering employment/employability barrier(s). Related to this challenge was the danger that any such classification system, if not properly implemented, provides one more undesirable delay in the actual delivery of services to clients.

The challenge was met through the incorporation of the needs-identification system into a ten-task structure. Emphasized in the structure is a collaborative counsellor-client endeavour aimed at the attainment of mutually delineated counselling goal or action plan. Characteristics of the goal or plan are specificity, relevance, attainability and client commitment. The ten tasks, thus, are simply more manageable sub-tasks of the goal delineation task.

Since the ten-task structure was conceptualized as the goal delineation or assessment component of an assessment-intervention-effective employment sequence, the ten step structure was labelled the "Assessment Component of Employment Counselling" (ACEC), and training material were developed.

The ACEC was developed on a decision-making model and as such is compatible across many theoretical orientations and philosophical learnings. As mentioned previously, it is focussed on the educative, goal-delineation task of the counselling process, i.e., defining what must be done in order for the individual to be more employable. Such a goal-delineation format is based on the premise that greater clarity of goal leads to greater clarity of intervention.

The working towards clarity of goal is an attempt to capture and encourage the client's responsibility taking. Goal-delineation empowers the client to take charge of his/her own employment related concerns.

The trust of formulating the tasks to be accomplished within the ACEC led to the sequential task of delineating the competence required of the counsellor to perform the tasks. The ACEC training materials, comprised of self-

study, workshop, and practicum activities, were developed on this two-pronged approach of tasks and competencies.

Response of Employment Counsellors in Pilot Training

After initial unfamiliarity with the structural breakdown of employment counselling in general, and the ACEC in particular, the counsellor response was most positive. Enthusiastic comments of counsellors tend to be of the variety, "Hey, this applies across not only my counselling interactions — but all my other interactions" . . . , "the structure provides clarity as to what must be done before running off into a dozen different directions" . . . "is very helpful both to myself and the client".

Employment counsellors have reported that the ACEC structure allows them to view their counselling role more clearly. Their comments lead one to the conclusion that the structure allows them to conceive their role more clearly; to accept, indeed embrace their role as being integral to the service of non-job-ready clients; and to more confidently and more competently perform their counselling role. The validity of such positive orientation to the ACEC is to be further established through the systematic evaluation of the pilot study and the subsequent program implementation phases. An important point to be made here is the need for the evaluation efforts to creatively capture the positive aspects of the employment counsellors' present work. For example, counsellors now have the client's smile of satisfaction and the client's "raised eyebrow" at a moment of personal insight. However, too many counsellors seem to negatively view their present "flying by the seat of their pants" as an inferior or "not quite proper" way of doing things. In short, they do not fully appreciate the power of their derived-from-experience-type of helping stance and procedure. Likewise, they do not fully appreciate, indeed are screened from recognition of, areas of their helping stance and procedure which are facilitating client progress and movement of the Commission to meet its mandate.

Participants within the piloting workshops individually reported overall support of their managers regarding their training time. However, once back in the office there appears a wide variation in degree of organizational acceptance and support for employment counselling activities. In essence, there does not appear to be the required evidence of the compatibility and the integral link between employment counselling services and placement services. To meet this need, multi-pronged approaches are required. To cite but a few examples: organizational review would be helpful in clarifying the

validity of such reports of non support for counselling; research on the effectiveness of counselling in helping meet client and societal employment-related needs is important; evaluation of managerial effectiveness in deploying professional personnel (both in a managerial sense and in a leadership sense) would be useful.

In short, much formative evaluation is necessary before summative evaluation is conducted. The knowledge, skill and performance levels of counsellors must be ascertained. Probably as important, if not more important from a priority basis, however, is the need for base data to be collected now regarding present satisfaction, constraints, and performance of clients, counsellors, managers, and employers.

Conclusion

Provided in this review of the research completed thus far in assessment interviewing is a summary of:

1. the observations made regarding employment counselling as practised in Canada and other countries; and
2. the actions both taken and to be taken, based on the above observations, in the development of a training program directed at assisting employment counsellors in their professional efforts with employee-clients.

Status of Student Personnel Services in New Brunswick Community Colleges

Richard Harvey,

New Brunswick Department of Education

The report which Dr. Guerette and I will present represents, in effect, a slice of life from our world. That world involves the administration of Pupil Services within the public schools of New Brunswick and on a secondary basis, the development of an organized system of student personnel services within the Community Colleges of New Brunswick.

The project began one year ago and really got into full stride by late spring of 1981. The time prior to that was spent in developing the parameters of our study and in reaching agreement with the Management Committee of the New Brunswick Community College concerning our plans and projected time line for completion.

The report which we submitted is an internal one and not available for general distribution. At the same time, we are at liberty to share the ideas with you and if some of you are employed in a similar situation, it is possible that we can make copies available to you.

The report which will be described in some detail by Dr. Guerette came out of a general agreement that the study would be conducted on an English and French language basis. In this regard, Dr. Guerette surveyed the French language campuses, I, in turn, surveyed the English campuses. As we will note later, this constitutes some ten campuses in total.

We did meet our deadline of September 1981 for the development of the report. As an aside, through the necessary labouring over format, language, style and politics associated with recommendations, we found that at the last minute we had to accommodate the thinking in the David Dodge report *Labour Market Developments in the 1980s*.

As I have indicated, it is our intention as part of this report to present questions to you to help us in our future development of student services. While we take pleasure in reporting what has taken place in New Brunswick, we do have very real interest in both formal and informal reaction to the study which has been completed.

The need for the report grew out of an awareness that there was a better administrative model than the one which has existed up until present in our colleges. Quite simply, the model which had been in place stressed training almost to the total exclusion of all other administrative aspects. While we would in no way wish to detract from training as a goal, and take pride in the tradition of excellence in training which our colleges have earned, we do feel that the development of student services is a most logical direction for our colleges to take at this time.

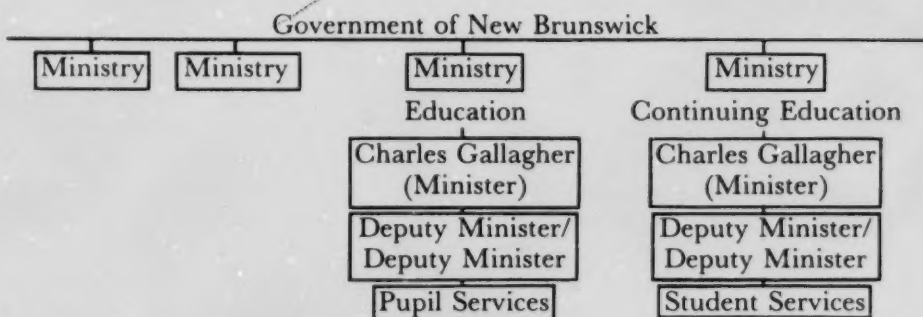
The Nature of the Project

The paper which we are jointly presenting has to do with an inventory of existing student services in the Community Colleges of New Brunswick and the inevitable development of a course of action necessary to supplement deficits discovered as a result of this inventory.

In support of the survey which we undertook, we of course surveyed the literature and relied heavily on communications with persons outside of New Brunswick. We did not travel specifically as a part of this survey.

Our Unique Situation

The Community College organization of New Brunswick is a department of Government. The college shares common Deputy Ministers with the Department of Education.



You will note from the diagram that the Government of New Brunswick is organized in such a way that two of its ministries are Education and Continuing Education with a common Minister and two common Deputy Ministers. The duality of Deputy Ministers is a recognition of the two official languages in our province and the English and French cultures they represent.

Most of us were trained in administrative theory which indicates that unity of leadership is an end-all concept. I can assure you that the system which we have is alive and has existed for more than a decade and is indeed a very viable concept. Within this organization, Dr. Guerette and I have been seconded for the purposes of this project to perform the student services survey under the aegis of the Community College ministry.

The map which accompanies this presentation will indicate the location of our various campuses. The letters indicate the linguistic nature of each campus; an E or F for English or French. The bold print represents the full-time

enrollment, the smaller print represents the part-time enrollment. As an aside to this description of the physical layout of our province, I can indicate to you that from Fredericton, which is located in the center of the province, two hours takes one to most provincial centers with the exception of those areas in the extreme north of the province. Specifically, it is perhaps something more than a three hour drive to Edmundston and somewhat more than four hours to Campbellton. On this basis, you will get some idea of the distances involved in travelling our province. Also you will notice an E indicating a campus in Newcastle and an F in the Moncton area indicating a campus. These are proposed campuses and to date only the principals have been appointed, but the campuses themselves are very much in the development stages.

An Earlier Study

A major report on the New Brunswick Community College was completed in 1978. The Quinquennial Report included a major section on student services. I, personally, was involved in acting as a consultant to that study and developing much of the information which appears within that report in the student services section. For those of you who are interested in the literature, I can commend the report to you.

As practitioners, I can say that the current assignment has proven to be more rewarding to me than the earlier study. In the case of the Quinquennial Study I acted as a consultant and my duties ended when the report was completed. In the case of the current study, Dr. Guerette and I are currently involved in implementing the recommendations contained therein and this has an element of reality in that we are being forced to live daily with the recommendations presented and the very real difficulties of translating ideas into ongoing campus-level activities.

Liaison

Our work in the public schools of New Brunswick in the pupil service field links directly with the Community College through the day-to-day workings of school counsellors. These counsellors work hard to find places for students in training programs in the Community College. By virtue of our close contact with the Community College, we are able to relate better to our counsellors in terms of the very real difficulty the colleges face in accommodating all the student requests for training places and the lack of training in specific careers. Similarly, we find ourselves justifying the training situation which involves allocation of a certain number of training places for persons older than high school graduates and training places which are reserved for Canada

Employment and Immigration.

I have had the pleasure of introducing the background which really precedes the report itself.

Life Skills/Management: A Draft Guideline for Secondary Schools in Ontario

Dorothy McPhedran
Ontario Ministry of Education

I am pleased to be able to speak to you today about Life Skills/Management, a draft guideline which has been prepared in Ontario for secondary school students and for students in continuing education. It has, I believe, significance for all persons.

"Life Skills" is defined as the abilities and knowledge required for successful management of one's life; "Life Management" is defined as the conscious directing of one's life in accordance with one's values and goals in the context of the common good. The substantive content in the document is practical in its thrust; the document has academic integrity.

We live in a changing and complex society in which there are observable and significant social phenomena; some of these are technological change, economic change, varied family patterns, an aging population, new intergenerational relationships and changing lifestyles. It is the intent of the Life Skills/Management document to provide opportunities for students to develop skills and knowledge needed to manage their personal lives in these changing times in order that they may be productive, satisfying, and less stressful. There appears to be a need to focus attention on this knowledge and these skills in an unfragmented way, so that students may be better able to perceive the interrelationships among the kinds of knowledge in the program and be able to integrate the learning more effectively.

The program goals are to provide opportunities for students:

- to acquire and develop competence in the use of the knowledge and skills required for management of their lives, and to translate these into behaviour appropriate to themselves and to the community,
- to develop skills of reasoning and decision-making
- to learn to manage their lives in the context of their personal values and in the context of the values and goals of the community,
- to develop an understanding of the concept of self-worth, based on *what one is* as a person, as distinct from *what one does* as a worker.

It is intended that in all modules will be integrated an awareness of the role of attitudes in life management and the development of language skills.

There are twelve modules for study, each of which would have a minimum

of thirty hours of time directed to it. These modules are: aesthetics, aging, career planning, entrepreneurialism, fitness/well-being, home maintenance, human relations, law, nutrition, parenting, problem-solving, resources management (money, time, talent). In the document, for each module there appears a rationale, an intent, objectives, content, and learning experiences. As well, for each module there are some suggested units of study, and for some a block plan. These units and the block plans are suggestions only.

The focus of the document is on the *practical* application of the knowledge and skills required for successful life management; there is also a focus on the interrelationship of the kinds of knowledge. It would, for example, be expected that in the classroom the development of career planning would be related to aging, to entrepreneurialism, to human relations, to parenting, to problem-solving, and to resources management; in the development of a module on human relations, there would be a relationship to aging, to career planning, to parenting, to problem-solving; in the module on law a relationship would be established with aging, with parenting, with entrepreneurialism. The focus is not only on the practical but also on "doing" and on "thinking".

The document is still under development. Some of the key aspects of the development have been the involvement of many persons in different ways, the concurrent development of an English and a French language document, an efficient process for the development of the draft, an extensive validation, and, still to come, a field test in 1982-83.

In the development of the project proposal, there was, of course, a need identified and the identification of the modules to be studied; as well, there was an examination of existing related guidelines in order to ensure that there would not need to be duplication of content in the classroom, and an examination of the enrolment in courses developed from these related guidelines; we found that a duplication of content did not need to occur and also that enrolment in the related courses was low.

As I indicated earlier, there were a number of persons involved in different ways in the development of the guideline draft. There was an Advisory Committee of five persons; it was the role of the Advisory Committee to provide advice and suggestions to the Curriculum Committee. There was a Curriculum Committee of 14 persons, twelve of whom were educators from school systems in the province; persons on the Curriculum Committee, among them, had background in related subject fields such as guidance, social sciences, technological studies, business studies, physical and health education, family studies and library science.

To assist the curriculum committee in the development of each of the modules for study, there were fifteen resource persons. These persons were

from outside the school system, but were persons actively involved in the community in areas related to the particular module for which they provided much valuable knowledge and experience. For each module we had at least one and in some cases two resource persons to provide assistance. In addition to the advisory committee, the curriculum committee and the resource persons, there were six process persons who provided special assistance as facilitators in the process of developing the modules for study.

Following the development of the draft there was validation of that draft. In our development process, the validation stage is that stage in which the draft is sent to persons outside the Ministry for evaluation of the document. In the validation of the Life Skills/Management draft, the document was sent to all superintendents of curriculum in the province and to all principals in whose schools the document could be implemented; that meant that it was sent to the principal of each secondary school, each junior high school, and each Roman Catholic Separate School which has a grade 9 or 10. In addition to this rather extensive validation, there was a validation committee of 16 persons from various educational organizations in the province, such as the Ontario Teachers Federation, the Ontario School Trustees' Council, the Ontario Separate School Trustees' Association, the Ontario Association of Education Administrative Officials, the Ontario Secondary School Headmasters' Council, a person from a Faculty of Education and a person from our Regional offices. Each person involved in the validation used the same criteria for validating; the common criteria were provided through the means of a carefully constructed validation instrument. From the validation instrument we secured both objective and subjective data. The analysis of the validation responses indicated that those who responded showed positive support for the concept of life skills and for the quality of the draft document; there were mixed views about the question of requirement of each of the modules for all students; the responses in regard to requirement, however, were not sufficiently slanted to the negative or to the positive that a decision could be based on these responses. It was the consensus of the Validation Committee that revision of the document should not take place until after the field test.

During the 1982-83 school year the draft guideline in Life Skills/Management will be field-tested in a variety of selected schools across the province. There were many more schools indicating an interest in participating in the field test than we could accommodate. The selected field test schools include large and small schools, urban and rural schools, English language and French language schools, vocational, composite, academic schools, both public and separate schools, alternate education program schools, continuing education program and training schools. Following the field test there will be a comprehensive review of the draft in the summer of 1983 and revisions will

be made as required. The 1984-85 school year is the earliest at which it could be expected that the Life Skills/Management guideline could be implemented in schools across the province.

We look forward to the information and suggestions which we will be receiving from the field test schools next year. Life Skills/Management is a document of considerable significance to students and to the curriculum; I thank you for the opportunity of speaking to you about it.

Preparing Vocational Counsellors

Bryan Hiebert

Instructional Psychology Research Group
Faculty of Education
Simon Fraser University

In describing the rationale underlying the "Competency-Based Inservice program" developed and field tested by the United States Department of Labor, Cauley (1980) stated, "we were guided in our endeavours by the belief that we are not *only* vocational counsellors." A similar comment might well be the central theme for this paper. The implication in this belief is that the repertoire of skills commonly thought to be essential to counselling interactions is also essential to vocational counselling endeavours. Similarly, the theoretical base and practical components that are central in counsellor preparation programs are also important components in the preparation of vocational counsellors. In short, vocational counsellors are specialists within the field of counselling and as such they require certain knowledge, procedures and skills in *addition* to those typically required in other counselling endeavours. Thus, vocational counselling is a specialization, in much the same way as family counselling, school counselling, rehabilitation counselling, or counselling that specializes in the treatment of somatic complaints, are specializations.

The assumption that vocational counselling should be viewed as a specialization within the field of counselling, rather than an inferior form of quasi-counselling (as some people are prone to think) has important ramifications for the practice of vocational counsellors. Although the specific figure varies from one report to another, it appears that the average person in our society will undergo a major change in occupation around four times during the course of his or her working career. In this context, to focus the counselling interaction on finding a particular job is likely to be of only short term benefit to the client. If long term benefit is to be gained, the counselling interaction must focus on process rather than placement. Long term benefit will be enhanced when counselling is directed towards the client learning the process skills involved in such things as: obtaining vocational information, career exploration, decision making, job searching, and employability. The move towards viewing the client as a learner is becoming common in other areas of

counselling (Cormier & Cormier, 1979; Kanfer & Goldstein, 1975; Krumboltz & Thoresen, 1976). Vocational counselling pursuits will likely become more productive when clients are viewed as learners in this context also (Hiebert, Martin & Marx, 1980).

If the role of the client in counseling is one of learner, it follows logically that the counsellor's role must be one of instructor. On this question there are only a finite number of alternatives. The system could be left unstructured in the hope that accidental learning would produce the desired results. I assert that few counsellors or clients would be content with this option. As a second alternative, it might be possible for the client to instruct him/herself and produce the desired learning. However, the client who was capable of such self-instruction would not be likely to seek counselling. It seems to my colleagues and me (Hiebert, Martin & Marx, 1980, 1981; Martin, Hiebert & Marx, 1981), that if the role of the client is to learn something in counselling, then the role of the counsellor must be that of instructor. It is important to add at this point that instruct does not mean "to tell", nor does it mean "to lecture." Rather, instruction means to purposefully engage the client in those activities that result in the desired client learning. The notion that the counselling interaction is instructional in nature with the counsellor's task being to instruct is becoming increasingly common (c.f. Lewis & Lewis, 1981; Peavy, 1981; West, 1977). However, while more authors seem to be advocating an instructional role for counsellors, few have elaborated the implications of this position for counsellor training programs. The balance of this paper represents an attempt to outline the implications concerning the training of vocational counsellors, when an instructional perspective on counselling is adapted.

Counsellor-Client Interaction

Perhaps the most wide-ranging implications for counsellor training will focus on the nature of the counsellor-client interaction. We have argued elsewhere (see Hiebert, 1981; Hiebert et al, 1980, 1981; Martin, 1981; Martin, et al., 1981) that instruction is the purposeful use of certain skills, strategies or activities that results in learner change. This definition has three components: a purposeful component, whatever activities take place are not random but are intended to produce some effect; a structural component, there is the use of some set of skills, strategies or activities; and a functional component, the skills, strategies or activities work to produce the *intended* outcome, i.e., there is some learning, some change — if this learner change does not take place, no instruction has occurred. When the context is vocational counselling and when the goal is for the client to learn (i.e., to experience some change in behavior, cognition, affect, skill repertoire, etc.) then this

definition of instruction, is also applicable. Therefore a discussion of the 3 components of instruction is appropriate.

The *structural component* of instruction refers to the skills the counsellor is using. The argument earlier in this paper is that the kinds of skills used by counsellors in nonvocational settings are appropriate in vocational counselling settings. Some data are beginning to emerge that support this tennet. In the Florida pilot of the U.S. Department of Labor's Competency-Based Inservice Program a curriculum was devised that included, amongst other things, training in and demonstration of the use of generic counselling skills in a vocational context. Incentives were provided to ensure that all counsellors participated in the inservice programs. This participation included the necessity of providing a record (audiotape, videotape) of the counsellor's use of the target skills with a client, demonstrating that competency with the skills had been achieved. Interestingly, as counsellors progressed through the modules in the inservice program, the time spent per client increased, but the number of placements also increased. The reasons for the increase in number of placements was the "repeat business" drastically declined — clients were remaining in their placements. Also accompanying module completion were increases in counsellor job satisfaction — counsellors appeared to perceive themselves as having greater impact on their clients, and doing a more self-fulfilling job (Cauley, 1980; Gjernes, 1980). Similar results from similar programs are also reported in the field of rehabilitation counselling (Roessler & Rubin, 1980), and currently the construction of a competency-based inservice program is underway in the Canada Employment and Immigration Commission. It seems like the notion that vocational counselling requires similar skills to those used in other counselling endeavours, is becoming more accepted, and some data are beginning to emerge that suggest vocational counsellors are more effective when their skill repertoires are expanded.

However, simply expanding the skills repertoires of counsellors is unlikely to produce a positive effect, if the skills are used in a random fashion by the counsellor: the definition of instruction contains a *purposeful component*. Some counsellors might object to an emphasis on purposeful counsellor behavior claiming that client needs will be neglected. However it seems to this writer, that good counsellors (counsellors whose clients change) invariably have a reasonably clear idea of "why they do what they do" in any given counselling session, and that "why they do what they do" is typically phrased in terms of the intended effect of the counsellor's behavior on the client. A recently released film series depicts Carl Rogers working with a particular client demonstrating pent up hostility, frustration and depression (Rogers, 1979). The film contains excerpts from the counselling sessions with Rogers

voice superimposed at various points explaining the reason of his use of particular skills at particular junctures. In client-centered counselling, as in other counselling orientations, good counsellors can typically offer a rationale for their behavior in terms of the intended effect of the skills that counsellors use on the clients' behavior. This is to say that the counsellors act in a purposeful manner.

The *functional component* in my definition of instruction refers to the actual effect on the client of the counselling interaction. Just as it is not meaningful to discuss the use of counselling skills in a nonpurposeful way, it is not sensible to discuss counselling without addressing the resulting effect of the counselling on the client. This refers to the degree to which the actual client-effect and the intended client-effect concur. If the focus in counselling is for clients to learn it is possible to look to the rich literature in teacher effects for some assistance in formulating a framework from which to approach the discussion of the functional impact of counselling. Research on learning and instruction has consistently shown that three conditions must be present in order for learning to occur (see Gage & Berliner, 1979). Firstly, the learner must have a clear idea of what is to be learned: the learning task must be specified and it must be meaningful to the learner. Secondly, there must be some practice of the "to be learned" behavior, or thought patterns, or affect, or skill. It is important to appreciate that this practice may be on a behavior/motoric level (the learner practices *doing* something) or on a cognitive level (the learning practices *thinking* something, or sorting out ideas). Thirdly, there must be some feedback to the learner concerning the nature of the practice. When learners cannot perceive how the practice is going, there is seldom very much learning taking place. If counselors are to instruct, then they must ensure that these three conditions are constantly sustained. For *each* skill, idea or behavior, that the client is to learn the counsellor must make sure the client has a clear picture of the learning target. Note that this means the counsellor must be able to identify the desired learning target as well. Secondly, for *each* bit of learning that is desired, the counsellor must arrange for appropriate practice, questioning, coaching and encouraging the client where necessary in order to initiate and sustain the practice. Thirdly, for *each* bit of practice, the counsellor must ensure there is some means for the client to receive feedback on the practice, keeping in mind that greater learning typically takes place from feedback that is specific, descriptive, and positive. If the goal of counselling is for the client to learn, then the counsellor's behavior must constantly be referenced to the actual effect of that behavior on client functioning. If the counsellor provides for meaningful specification of what is to be learned, adequate practice and abundant feedback, at each counselling juncture, then client learning is likely to result.

(At this point a brief aside seems in order. Some counsellors would argue that there are times in counselling where client learning is not a concern. Examples which usually accompany this claim include: building rapport, certain kinds of crisis intervention, intake and history taking, etc. I would argue that these kinds of endeavours can result, and often do result in some client learning (this is often best described as accidental learning) and that if these endeavours are approached instructionally, the client learning will be enhanced. However, I would further argue that if activities like rapport building and history taking are not intended to result in any client learning, that these endeavours should be kept separate conceptually from other pursuits where client learning is the goal. Further I would argue that the counsellor should inform the client that these activities are not designed to produce any client change, but rather are precursors to the actual intervention per se, where client change will become the focus. If this is done, clients can make an informed choice as to whether they wish to buy a service that includes "x" amount of preliminary interaction followed by "y" amount of change-directed interaction. It is important for the counsellor to be able to identify when client change is to be expected, so that neither the counsellor nor the client are surprised or disappointed if no change occurs during those times when no change was intended.)

It is the linking together of counsellor intention, counselling skills, and counselling outcome that constitutes a unique aspect of instructional counselling. In counsellor training, the instructional focus will necessitate more than the acquisition of generic counselling skills. The instructional emphasis will involve counsellor trainees developing the ability to purposefully use the generic skills to produce client change. This will involve the counselling student being able to ask questions like: "What do I want my client to learn in the forthcoming session?", "What skills can I use to make sure the client has a clear idea of the learning tasks? and engages in the kind of practice necessary to produce the learning? and receives feedback about the practice that will assist in greater skill acquisition?" "How will I tell whether the skills I am using are having the intended effect?" and "What back-up plan, and which accompanying skills, will I explore if the initial plan seems to be inappropriate." It is the linking of counsellor behavior simultaneously with intended outcome (purpose) and actual outcome (function) that represents the primary implication of an instructional perspective for counsellor-client interaction. This focus would likely be appropriate across a wide domain of counselling contexts and presenting situations, as long as client-learning is an intended goal.

Theoretical Background

Adequate theoretical preparation is a second area that must be addressed if counselling is to be instructional. In addition to the usual cross-theoretical exposure to counselling orientations common to most counsellor preparation programs, instructional counselling must have a firm understanding of learning and instruction. This is likely to be necessary regardless of the context within which counselling is undertaken. Vocational counsellors, on the other hand, must have a broader theoretical exposure. In addition to the theoretical background possessed by other counsellors, vocational counsellors must be familiar with such areas as: theories of vocational development, vocational choice, problem solving and decision making. These areas would be considered by most to represent a minimal theoretical exposure. To argue otherwise would be akin to arguing that family counsellors need no understanding of group dynamics, and counsellors specializing in behavioral medicine need no understanding of human physiology or a theoretical framework which encompasses stress and stress-related symptoms. Few people would seriously pose such an argument. Counsellors who attempt vocational counselling without an adequate theoretical background are likely to be prone to engaging clients in a series of activities that lacks meaning and is unlikely to result in the acquisition of the process skills that augur for lasting client change. The counsellor's theoretical framework provides the conceptual pegs which unite the counselling activities into a meaningful whole. This is no less true when the focus is on matters pertaining to vocation than it is when the focus is on other counselling endeavours.

Specific Programs and Procedures

So far this discussion on the training of vocational counsellors has focused on those elements which are either common to or an extension of other counsellor training foci. However, there are some elements in counsellor training that are likely to be unique to the training of vocational counsellors. These would include the host of special programs, procedures, and materials that are a part of the repertoire of most vocational counsellors. In Canada these materials might include the many special programs and excellent materials recently released by the Canada Employment and Immigration Commission. Specifically, the list might include programs like: PLACE, Generic Skills, Creative Job Search, Moving On, and CHOICES; and materials like COFOR, FOIL, and Careers Provinces. In addition, vocational counsellors would have to be fluent with the use of such things as the CCDO, and the various assessment techniques that are standard tools of our trade (e.g., ICO, GATB, COII, SCTT, and other standardized assessment instruments).

To say that vocational counsellors should be familiar with such items is hardly profound. However, it is an important point to make, lest we assume that it is possible to "pick these things up on one's own." The risk of such an assumption is that valuable counselling aids will be unused or perhaps even unknown to the vocational counsellor. Furthermore, it is essential that counsellors can relate the use of such aids back to the theoretical model from which they are working. Clients, especially younger clients, are often left wondering why they are doing some of the activities they do in vocational counselling, i.e., the activities lack meaning. Being able to relate the activities to a theoretical framework helps to answer this "why?" question. For both of these reasons, i.e., to make sure counsellors are aware of a large subset of the special materials and programs available to them, and to promote the relating of these materials and programs back to a theoretical perspective, exposure to these materials and programs, and practice activities designed to promote their fluent use, should be part of any program, preservice or inservice, which claims to prepare vocational counsellors.

Counselling Practicum

There is an old adage which states, "The proof of the pudding is in the eating." This adage is true for vocational counselling as well as for dessert. The ultimate good in instructional vocational counselling is for the client to learn process skills that will result in the *implementation* of a career plan, and eliminate the need for continuing counselling intervention each time an alteration in the plan is necessary. Whenever people are in a situation that requires them learning new skills, the ultimate proof of skill acquisition is for the skills to be used in the manner intended to produce the desired effect. When the focus is to teach the client skills that will help the client achieve counselling goals, the evidence of a satisfactory job lies with the clients' demonstration of those skills *and* in the achievement of the counselling goals. When the focus is to teach counsellors how to teach clients the skills . . . , the evidence lies with the counsellor's demonstration of the counselling skills *and* concurrently, the client's acquisition of those skills which lead to attaining the counselling goals and subsequently, the client's attainment of those goals. The worth of the counsellor training program lies in the counselling student's ability to initiate client change. This statement applies equally well to inservice counsellor training programs as well as institutionally-based counsellor training programs. This assumption bespeaks the need for some practicum component, or other vehicle to demonstrate the acquisition of counselling skills.

My colleagues and I (Martin et al, 1981) have described one such model for practicum supervision. Our model involves having the counsellor declare

in advance the intended outcomes for the session to be observed and to indicate the specific skills that will be used to advance these outcomes. Care is taken to ensure that the counsellor skills provide for meaningful specification, practice, and feedback for each intended outcome. Typically, some form of direct observation follows, utilizing audio or video tape, or by having the supervisor sit in on the session. If audio or videotape are used, the counsellor will begin the tape with a 5-10 minute description of intended outcomes and skills to be used so that we have an *apriori* declaration of intent (i.e., counselling purpose). After the observation, feedback is given to the counsellor concerning (a) the extent to which the counsellor did what s/he wanted to do, and (b) whether the counsellor behavior had the desired effect on the client. Thus the discussion of the functional component of counselling always relates back to the purposeful component. Where a departure from the intended game plan is necessary, the counsellor is asked to articulate the new goals, and corresponding skills, and the feedback is in relation to these new purposes. We have found this to be a useful procedure for drawing together the purposeful, structural and functional components of instructional counselling. However, this is just one possible example of how this "drawing together" might be accomplished. Regardless of whether this model or some other is adopted, it will be essential, if we wish to teach counsellors to instruct, to build some procedure into our practicum supervision to promote (and assess) the purposeful and functional aspects of the counsellor-client interaction in addition to the usual focus on the use of counselling skills (i.e., structural aspect of the interaction).

As a final note, some mention of the role of modeling in counsellor training programs seems appropriate. Therapist modeling has been demonstrated to be a powerful procedure for enhancing the acquisition of new skills (Hersen, Eisler, Miller, Johnson & Pinkston, 1973; Perry & Furukawa, 1980; Phillips & Bierman, 1981). If the goal is the acquisition of counselling skills, progress towards the goal is likely to be enhanced if the instructional procedures in the counsellor preparation program, model the instructional skills to be acquired by the counsellor-in-training. To this end, programs designed to teach counsellors to instruct should have clearly articulated outcome objectives. Furthermore, the sequence of courses, or modules, and the activities, exercises, assignments and the like within each course or module, should provide for the meaningful specification of what is to be learned, practice of the target skills, and feedback on the practice. Moreover, the relationship between the model and the specific activities in each course or module should be made explicit, for observational learning is enhanced when the relevant portions of the to-be-learned skills are pointed out to the observers (Gage & Berliner, 1979). It seems particularly germane that those of use involved in counsellor

training should be able to point out in our instructional endeavours those skills that we expect our students to use in their instructional endeavours with clients.

Summary

In some respects the argument in this paper is not new. Basically, the argument has been as follows: (a) it is of greater long-term advantage in vocational counselling to focus on teaching process skills rather than placement per se, (b) client learning of these skills will be enhanced if counselling is conceptualized as instructional in nature with the counsellor adopting the instructor's role, therefore vocational counsellor training programs must contain (c) a focus that promotes the linking of purposeful, structural and functional components of the counselling interaction, (d) theoretical exposure that includes cross-theoretical approaches to counselling, theories of learning and instruction, and theories of vocational development and decision making, (e) activities that promote familiarity with and a fluent use of basic programs and materials unique to vocational counselling and (f) a solid practicum experience that unites the above characteristics. Various writers have discussed previously most of these propositions. However, what is new, and also exciting, is the combining of these propositions into a unified conceptual framework, and specifying one way in which this framework might be translated into practice. It is my belief that when the focus of vocational counselling is expanded to include the sorts of things discussed in this paper, that vocational counselling will evolve beyond crystal ball gazing, and matching people with jobs, to focusing on the kinds of life skills that promote long term and long lasting client benefits.

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Alberta Task Force on School Counselling and Guidance

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Origins of Study

In March, 1979, the Minister of Education for Alberta directed that information to be provided concerning the adequacy and quality of school guidance and counselling programs and services. A task force was established to fulfill this function.

The mandate to the task force follows.

- "1. To identify the desirable elements of adequate school guidance and counselling programs.
2. To assess counselling and guidance programs in schools of Alberta for:
 - a) *Adequacy*, i.e. do the programs offer a full range of services as measured by the identified desirable elements?
 - b) *Quality*, i.e. is the quality of service provided in each of the elements satisfactory?
3. To determine those elements which are in most pressing need of development.
4. To make recommendations to the Minister of Education based on the information collected."

Task Force Representation

Ten people representing a broad spectrum of Alberta society were selected. Two members represented the Alberta Chamber of Commerce and two school counselling practitioners at elementary and secondary school levels represented the Provincial Guidance Council of the Alberta Teachers' Association. One member representing each of the following areas made up the total group.

Alberta Advanced Education and Manpower
Alberta Federation of Home and School Associations
Alberta Education
Universities of Alberta
Alberta Teachers' Association

Alberta School Trustees Association

An excellent consultant staff was available and many technical matters were handled by this staff.

Instrumentation

The task force contracted to prepare a survey instrument to be used in the study. Since it was felt that no existing instrument would be suitable for the present survey, the researchers undertook to develop a new one based on an analysis of various instruments and a review of the literature concerning guidance and counselling functions.

In order to generate a battery of items for potential inclusion in the survey instruments, a review was made of the current literature on the purposes and functions of school guidance programs. Also, more than thirty instruments were examined which have been designed for conducting needs assessments and evaluations. Guidance and counselling functions encountered in this manner were included within an initial pool of items. Items in the pool could be classified according to the *target groups of the guidance service* or program (i.e. students, parents and teachers).

Efforts were made to achieve some balance among items with respect to the *area of guidance concern* (i.e. educational, vocational, personal and social). Efforts were also made to achieve some balance among the expected *guidance outcomes* (i.e. knowledge, skill, attitude and action).

The result of this endeavour was a set of 52 items appropriate for elementary schools. Items for junior and senior high schools were identical except for references to level of schooling. The items regarding elementary schools included nine fewer items dealing with services to students, but otherwise were identical or comparable to the junior and senior high items.

Using these terms, three forms of the questionnaire were developed for each level of schooling, with one-third of the items being assigned to each form.

Field Testing

An initial version of the nine questionnaire forms was subjected to a field test in October and November 1979. Students in grades eight and eleven in six school jurisdictions completed the questionnaires under the supervision of their teachers and under conditions similar to those that would exist in the actual administration of the questionnaire later. In some instances, researchers were able to observe students completing the questionnaires and noted possible difficulties requiring further attention.

Appropriate changes were made to the questionnaire where required in the

light of reading level evaluation, item analysis and the field testing described above. Revised versions of the questionnaires were ready for distribution in January, 1980.

It is noteworthy that the field testing was a very useful undertaking. While changes were made to clarify some items, it became evident that item selection and formulation in earlier stages of instrument development had been quite adequate. In fact, only 12% of the items required any substantive revision after the field testing data were compiled and analyzed.

Selection of Respondents

Nine respondent groups were included in the survey: students, parents, teachers, school administrators, school counsellors, school trustees, employers, Alberta Education officials and central office administrators of local school jurisdictions. People in the first five of these categories were expected to respond to the questionnaires in reference to their own particular schools, while those in the last four were expected to respond in terms of schools in general.

Sampling of Schools

Stratified random samples of schools were drawn which are assumed to be representative of elementary, junior high and senior high school populations respectively. To enhance the representativeness of each sample, the populations of schools were first stratified and from each stratum every n th school was selected.

The total sample consisted of 43 elementary schools, 89 junior high schools and 104 senior high schools.

In the elementary schools selected, parents of selected grade six students were expected to respond. In junior high schools, grade eight students and their parents were expected to respond and in senior high, grade eleven students and their parents were expected to complete the questionnaires.

The three respondent groups listed above received questionnaires through the schools. Other "school" respondents included school administrators and school counsellors. Each such educator selected to be part of the sample in the province received a questionnaire (the three forms of each level were assigned randomly).

The "non-school" respondents included school trustees, employers, Alberta Education officials and central office administrators in local school jurisdictions. All school trustees in the province were asked to complete questionnaires, the various forms of the questionnaires being assigned at random. For the employer respondent group, the Alberta Chamber of Commerce

provided the names of its corporate members. Selected officials of Alberta Education's various branches were asked to respond. Finally, for the central office administrators of local school jurisdictions, the membership list of the Conference of Alberta School Superintendents was used.

Schedule

Distribution of the questionnaires commenced on January 28, 1980 and was completed by mid-February. Mailing was done from the School Book Branch, under the supervision of a research assistant. Each form was stamped with the appropriate school code number in the case of those questionnaires to be completed by students, parents and school staff members. Follow-up letters were sent in March to encourage a more complete return, and telephone calls were placed to those schools which hadn't responded by April 1, 1980.

Validation of Assumptions

In order to determine the validity of the eight basic assumptions underlying the development of the questionnaires, an opinionnaire was developed to be completed by four groups of respondents: school administrators, school trustees, Alberta Education officials and central office administrators in local school jurisdictions. These assumptions are stated on pages 131 & 132 of this paper in the findings of the study.

Context and Input Data

Very little "context" or "input" information was collected from the respondents to the questionnaire. They were asked merely to identify the respondent group which they represented, and to respond to the items in the questionnaire. In addition, each questionnaire completed by a "school" respondent carried the school code number for identification.

There is value, however, in examining context and input data. "Context" information is descriptive of the environment or situation in which counseling and guidance services are provided. It can provide an answer to the question, "In what kind of context is the service highly valued, thought to be the responsibility of the school, likely to exist, and to be of superior quality?". "Input" data provide an analysis of the personnel, facilities, resources, expenditures, etc.

Context and input data were collected for the 48 schools selected for the Phase II on-site visitations described.

Phase II: On-Site Visitations

Phase II consisted of on-site visitations to selected schools by Alberta Education Regional Office consultants for the purpose of collecting process data in "high-adequate" and "low-adequate" schools. The visitations took place between May 12 and June 15, 1980, and were preceded by four orientation meetings for interviewers between December, 1979 and early May, 1980, to develop methods for data collection and ensure a degree of consistency among interviewers.

An interview instrument was developed and used by each consultant when interviewing administrators, counsellor and teachers in the chosen schools.

Schools were selected on the basis of their adequacy index scores. A composite adequacy score was used based upon the adequacy indices obtained from all respondents. Essentially, the top ten percent (most adequate) and the bottom ten percent of schools at each level were chosen, except that very small schools with less than one class for each grade were excluded. Preliminary results of the interviews were presented in June, 1980, with more extensive summaries following in October, 1980:

Findings and Conclusions

Summary of Findings

1. A validation sample of Alberta Educational administrators and trustees gave firm endorsement to eight assumptions which underlie school guidance and counselling programs. These assumptions reflected that school guidance and counselling programs should/must:
 - 1) Enhance the goals of schooling of Alberta Education
 - 2) Develop individuality and social responsibility
 - 3) Help students become effective problem solvers
 - 4) Be available to all students
 - 5) Be integrated with the education process
 - 6) Be developmental as well as prescriptive or remedial
 - 7) Be staffed by personnel with effective planning and evaluation skills
 - 8) Provide the separate but related functions of guidance and counselling

The mean percentage of the sample indicating general or total acceptance of the importance of the eight assumptions was 83.5%.

2. In terms of feasibility, the validations sample tended to be less emphatic; the mean percentage expressing the view that the assumptions were generally or totally feasible in Alberta schools was 46%.

Response patterns of this dimension might reflect the tendency for members of the general public (in this case, trustees) to believe that practical implementation of general principles which are acknowledged to be important, is more easily accomplished than educators would acknowledge.

3. Seventy-two percent of the validation sample stated that the assumptions were clear or very clear to them.
4. The large survey sample, representative of students, parents, teachers, principals, counsellors, trustees, employers, Alberta Education officials and central office administrators (total N = 18,000) expressed the view that the variety of services generally considered to be provided by school guidance and counselling programs is important. *None of the services was rated below 2.7 on a 4 point scale.*
5. Services to the elementary schools were seen by the respondents to be of greatest importance. Students were not part of the respondent group at the elementary school level.
6. Services to students were rated higher by respondents in importance at all school levels, followed by services to teachers and thirdly to parents.
7. You are reminded that all services were rated above 2.7 on a four point scale. An analysis of services which received the highest importance ratings reveals the following.

Services with Highest Importance Ratings

Target of Service

	<i>Students</i>	<i>Teachers</i>	<i>Parents</i>
<i>Elementary</i>	- effective study habits - better learning skills - positive attitude	- individualize instruction - maintain positive attitude - understand individual needs	- dealing with learning difficulties - help child: personal problems - understand educational development
<i>Junior High</i>	- study habits - learning habits - attitude toward work - career decision making	- as above	- as above

<i>Senior High</i>	- career planning skills	- as above	- as above
	- job search: continuing education		
	- study and learning skills		

The prevailing concern, as expressed in the importance ratings of services to target groups at three levels of education, is that guidance and counseling programs provide services to promote better learning by students, better teaching by teachers and more effective involvement of parents in the child's educational and personal development. There is an evident shift in priorities for services to students as they grow older. Work attitudes, career exploration, decision making and career planning assume greater importance at junior and senior high school levels.

8. In terms of *responsibility* for provision of important services, respondents tended to assign major responsibility to schools if services related to the needs of the classroom learning situation. Otherwise, they tended to see a shared responsibility with parents, agencies, etc. being involved with the schools.

9. Survey results pertaining to *provision* of important services (top third) by school revealed the following.

Elementary* — A mean percentage of 66% of respondents indicated agreement that their schools provide the services.

Junior High — A mean percentage of 49% of respondents indicated agreement that their schools provide the services.

Senior High — A mean percentage of 57% of respondents indicated agreement that their schools provide the services.

*Once again, remember that students were *not* part of the sample of respondents at the elementary school level.

Two trends are of particular significance:

- a) The low (relative) rating given junior high schools
- b) Students and parents tended to rate provision of services less frequently than educators.

10. In order to highlight the differences in perception noted above, the task force decided to reproduce Table 29, page 63 in the main report for inclusion in the summary statements.

Table 29

PERCENT RATING PROVISION OF SERVICES: LEVEL OF EDUCATION x SUBGROUPS**

	<i>Elementary</i>	<i>Junior High</i>	<i>Senior High</i>
Students	N/A	32 %	34 %
Parents	55 %	35	36
Teachers	87 %	76 %	74 %
Principals	93	87	90
Counsellors	86	89	88
Central Administrators	96	97	86

**These are mean percentages computed over all services at respective levels.

The consumer groups (parents, students) say that schools are less than 40% effective while the provider groups (educators) say that schools are better than 85% effective. This difference is awesome by virtue of magnitude and consistent across levels of education; it is even more remarkable when one considers the generalized lack of variation on ratings of importance and responsibility among respondent sub-groups.

This vast discrepancy in perception (consumers vs. providers) of services provided by schools points to a problem of the highest order; this matter was addressed in the recommendations made to the Minister of Education.

11. An index of adequacy (importance x responsibility x provision) was computed for all services and all schools. Adequacy indices for *services* are contained in Appendix K of the Task Force report. By definition, those services which are seen to be most important and a major responsibility of the school tend to have "satisfactory" adequacy indices (5.00 or greater). Similarly, though not as frequently, some services rated lower in importance and lower as a school responsibility, attained "satisfactory" adequacy scores because they are highly rated in terms of provision, e.g. "to assist students to develop constructive leisure time activities", at the elementary and junior high school levels. One of the difficulties encountered with the notion of "adequacy" as defined by the task force was that all services tended to be rated as important and very few were seen to be a minor responsibility of the school. In addition, students and parents at the secondary school levels tended to rate provision of services much less frequently than the educators in the sample. This meant that adequacy indices obtained by using only students' ratings were lower than those obtained from adults' ratings, and

those obtained for parents are much more similar to student ratings than to educators.

Adequacy indices for *schools*, computed by averaging across all services for a particular school and including all respondents for that school, revealed that 42 of 110 elementary schools (38%) achieved satisfactory adequacy indices, 10 of 76 junior high schools (13%) and 21 of 86 high schools (24%) achieved overall adequacy indices of 5.00 or greater. As has been indicated, students and parents contributed heavily to the lower adequacy indices at the junior and senior high school levels. Indeed, parents tended to deflate ratings at the elementary school level.

12. A *quality* index (five point scale) revealed that services, where seen to be provided, obtained mean quality ratings as follows:
- Elementary — 3.4 ("rather good")
 - Junior High — 3.3 ("rather good")
 - Senior High — 3.1 ("good")

An interesting pattern of intercorrelations among the mean scores (over all levels) on all services in the surveys was observed. These correlations, all of which are statistically significant ($p < 0.001$), reflect the tendency for important services to be (seen to be) provided by schools and for provided services to be (seen to be) of higher quality.

13. The school visitation data identified seven variables which were related to high adequacy scores at all levels. These were:
- 1. Definite assignment of responsibilities
 - 2. Time assigned to student services
 - 3. Team approach
 - 4. Cooperation with community agencies and parents
 - 5. Broad, articulated scope of responsibilities
 - 6. Principal leadership
 - 7. Presence of school counsellor(s)
14. Multivariate analyses which related adequacy and quality scores of schools to selected input and context variables revealed the following.
- 1. The six context variables used in the study, on average, were more potent predictors than the fifteen input variables selected. The set of six accounted for as much of the variance overall as the fifteen input variables.
 - 2. Population density and school jurisdiction wealth were the most frequently selected context indicators.
 - 3. The most frequently selected input variables were administrator

training, staff training, expenditures per pupil and school-based professional support.

4. School-based professional support was assigned equally often as a predictor of both adequacy and quality. However, adequacy most frequently was identified with expenditure per pupil and staff training. Administrator training was more frequently associated with quality.
5. The search for predictors and sets of characteristics associated with adequacy and quality criteria was most fruitful with respect to:
 - a) senior high schools, b) small/medium sized jurisdictions, and
 - c) schools in jurisdictions without specialist leadership.

Conclusions

The task force wishes to convey its general conclusions with respect to the mandate which outlined its terms of reference.

1. The task force believes it has identified the desirable elements of adequate school guidance and counselling programs. While acknowledging that the lists of such elements (services, programs, functions) it has prepared are probably not all inclusive, the task force received strong support from Albertans that all these elements are important and that many of them are the complete or major responsibility of schools.
- 2(a) *Adequacy*: The task force concludes, regretfully, that many Alberta schools do not provide guidance and counselling programs which offer a full range of services as measured by the identified desirable elements. At the same time, the task force noted that there is wide variability across the total population of schools. The larger urban and small city schools appear to be doing the best job of offering a full range of services.
- (b) *Quality*: The task force concludes that where services are seen to be provided these services are judged to be of good quality. There is, however, a wide discrepancy between consumers of services (students, parents) and providers of services (educators) in terms of their respective perceptions of the numbers of services which schools provide.
3. The task force has identified nineteen services which it believes are most in need of further development.
4. The task force has prepared twenty-three recommendations to the Minister of Education based on the information collected.

The experience of the task force has been a most rewarding one. The accumulation of information was undertaken on a large scale and in a manner which might be described as novel in Alberta. The voices of major stakeholder groups have been heard; assumptions and services have been evaluated and priorities ascertained; on site assessments have identified variables which contribute to effective guidance and counselling services in schools. Input and context variables have been shown to have some modest relationships with measures of adequacy and quality.

The task force recognizes the limitations of survey data and the instruments it authorized to obtain information. It also recognizes that recurring themes cited by the many respondents probably reflect commonalities of perceptions of needs that must be met if guidance and counselling services in Alberta schools are to be more effective in the 1980s.

The task force also recognized that decentralized budgeting and programming, admittedly within the context of provincial (central) guidelines, places an onus of responsibility on local school district decision and policy makers. Local school trustees must decide for their jurisdictions which services and programs require additional resources and development.

It is clear that Albertans expect their schools to be providing much more than formal instruction in basic academic subjects — a wide variety of supplementary services has been strongly endorsed by Albertans whose opinions were tapped by the task force. As has been mentioned throughout the report, the high ratings of importance given to all services makes it evident that Albertans see schools of the future becoming more inclusive in terms of services' provision; at the same time, they expect schools to have a shared responsibility with other community and family resources for some of these services. Those services which directly impinge upon classroom learning situations are seen to be the major or complete responsibility of schools.

The recommendations are presently under careful study within Alberta Education to determine those that apply to this government department and, most importantly, how they can be met. It is the hope of the task force also that local school jurisdictions, university counsellor education programs and other people and agencies affected by this study will also carefully study this report and consider the implications of various recommendations for them.

The Development of A Taxonomy of the Life Skills Required To Become A Balanced Self-Determined Person

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This paper describes the development of *A Taxonomy Of The Life Skills Required To Become A Balanced Self-Determined Person*.¹ The major aspects of the Taxonomy are discussed, including the 222 identified skills, the skill categories in which the skills are grouped, and the theoretical ideas on which the skills and skill categories are based.

Growth of Life Skills Programs

In the last six or seven years there has been a lull in the developmental aspects of Life Skills. However, during the same period, there has been a rapid expansion of Life Skills training programs. For example:

- Life Skills training is the major component of both the Basic Job Readiness Training Program and the Basic Employment Training Program, Canada Employment and Immigration Commission (CEIC) sponsored programs which are offered by most of Ontario's 22 community colleges.
- Many Boards of Education at both the primary and secondary school levels are including Life Skills training in their curriculums.
- Community and government agencies in many centres — for example Young Women's Christian Associations and Probation Services — provide Life Skills training for their clients.
- Outside of Canada, many countries — including Britain, Australia, the United States and Sweden — have implemented Life Skills programs for youth and 'disadvantaged' adults. Concern about youth unemployment and its related problems is growing. As solutions for

these youth problems are sought, new applications for Life Skills programs will continue to be identified.

- Increasingly, industries and businesses in Canada are including Life Skills training in a modified form as part of their staff development programs.
- Two years ago the Association of Life Skills Coaches of Ontario — ALSCO — was formed, primarily because of the extensive, rapid growth of Life Skills. In the spring of 1981, a committee sponsored by ALSCO developed a taxonomy of the skills required by Life Skills coaches and made recommendations concerning the training and certification of coaches. These recommendations are currently being implemented.

Because of this rapid growth of Life Skills, there was a need to:

1. Evaluate the old Life Skills lessons produced by Saskatchewan New-Start² to determine whether they adequately address the required skills.
 2. Write new lessons for skills not contained in the existing lessons.³
- Before either of these tasks could be accomplished, it was necessary to determine exactly what skills are needed to successfully cope with one's life.

Objectives

The project which resulted in the Taxonomy had three primary objectives. These included:

1. The identification of the Terminal Performance Objectives of Life Skills training — i.e. the main skills and competencies to be learned, the expected outcomes of training.
2. The identification of the elementary or subskills which enable one to achieve the Terminal Performance Objectives. Many of these skills are used everyday and are often taken for granted because individuals use them automatically, without thinking (for example, the skill of asking questions to get information or the ability to look at someone while talking with them).

To clarify the relationship between terminal objectives and elementary skills, the following example can be used. Consider the skill of riding a bicycle as a terminal performance objective, as a desired outcome of training. There are a number of less complex skills (elementary or enabling skills) which when learned and combined allow one to ride a bicycle. These sub-skills include steering, pedalling, decision-making and processing information. In the same way, the

Terminal Performance Objectives in the Taxonomy require competency in numerous sub-skills.

3. The sequencing of the skills:

- a) In a hierarchal order to show those skills which are prerequisite skills to other skills and those skills which must be learned first.
- b) In a cumulative manner to demonstrate the way in which the mastery of elementary subskills leads to the mastery of increasingly more complex skills.

Definition of Life Skills

The definition of Life Skills developed by Saskatchewan NewStart provides the basis for most Life Skills programs and so was a starting point for the development of the Taxonomy. As defined by NewStart, to learn Life Skills is to learn problem-solving behaviors which can be applied appropriately and responsibly to the management of one's personal affairs as they relate to five areas of life — Job, Family, Self, Community and Leisure.

Recently, the media have reported plans by some Boards of Education to include Life Skills training in their curriculum. Activities such as cooking, shopping wisely and hanging wallpaper have been used as examples of the kinds of skills which will be taught. These types of activities/skills are NOT Life Skills as defined by Saskatchewan NewStart or by trained Life Skills coaches. Nor are they the types of skills included in the Taxonomy. Life Skills training in the true sense involves behavior change (and accompanying change in attitude), new ways of interacting, of thinking, of problem-solving. Having to write a budget or perform during a job interview are not skills per se, but rather are examples of complex problem situations for which we need Life Skills. The skills in the Taxonomy are the skills required to manage a variety of problem situations from the five areas of life described by Saskatchewan NewStart.

The Objectives of Life Skills Training

The overall objective, the main goal, of Life Skills training is the development of a Balanced Self-Determined (BSD) person who manages the problems of everyday life through the discriminating use of a repertoire of problem-solving skills.⁴ "Self-determined" connotes the idea of determining and controlling one's own life, of being independent, while "balanced" points to the need to maintain a balance between the needs of the self and the needs of others.

There are a number of characteristics which are common to, and possessed

by, Balanced Self-Determined individuals:

1. They have a well-developed self-concept. They are aware of their strengths, weaknesses, needs and interests. They understand and are able to describe themselves and the experiences which influenced their development of Self.
2. They have a "coherent self-others image" — i.e. they have an understanding of their Self in relation to other individuals and to society as a whole. Transactional Analysis' position "I'm ok, you're ok" is characteristic of BSD individuals, of those persons with "coherent self-others images".
3. They have a repertoire of human relations and problem solving skills from which they choose when faced with problem situations.
4. They have confidence in themselves and their use of skills. This confidence enables them to use their skills.
5. They are able to select and apply the skills required to manage a specific problem situation.
6. They are able to think, to process information. (The notion of cognition in the Life Skills model has changed, has evolved, from knowing to thinking, from knowing facts to processing information.)

Generic Life Skills

The skills listed in the Taxonomy are generic skills which are observable and measurable. Generic skills are skills which are common to a genus or class, skills which are transferable. In the Life Skills model, and in Life Skills training, emphasis is placed on the commonality of skills rather than the uniqueness of situations or problems. Rather than focus on specific problem situations (as "how to perform during a job interview" or "how to deal with a landlord"), students learn generic skills which can be transferred to many situations.

The generic skills in the taxonomy vary with regard to their degree of complexity, and so are grouped into three main categories — elementary, complex and very complex skills. The four Very Complex skill categories each include a number of Complex skill categories, which in turn include a variety of Elementary skills.

The Very Complex Skill Categories

The four Very Complex skill categories — Human Relations, Problem-Solving, Critical Thinking and Self-Management of Personal Affairs — represent the major Terminal Performance Objectives of Life Skills training.

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1. The Very Complex skill category, Human Relations, includes those skills which are required to communicate and interact effectively with others and to develop awareness of one's skills and Self characteristics.
 2. The Problem Solving skill category includes those skills which are required to identify and solve problems and to evaluate plans and results.
 3. The Critical Thinking skills are those which are required to (a) process information by gathering data, and by thinking divergently and convergently to solve personal problems and (b) to develop and revise a self-concept by processing and evaluating data. "Divergently" refers to those skills required to differentiate between data (for example, sort, rank, analyse), while "convergently" refers to those skills which enable one to integrate data (for example, generalize, infer, predict). In his presentation to the Consultation, David Tiedeman introduced these two processes when he described "comprehending" as involving two simultaneous but separate processes, that of dividing or differentiating and that of bringing together or integrating.⁵

The idea of developing and revising a self-concept by processing and evaluating data can perhaps be clarified by referring to some ideas expressed by Bruce Cassie⁶ during his presentation. Dr. Cassie talked of schemata, of frameworks for thinking, and of how it's possible to teach thinking using these schemata. With regard to the process of becoming a BSD person, these schemata can be viewed as self-statements or cognitive themes which individuals use to describe themselves and others (for example, "I'm not good at talking with people" or "employers are out to get me.") Frequently, it is necessary, because of new situations, to change these schemata, these self-statements, these cognitive themes. For individuals to survive, to grow, it is sometimes necessary to develop more complex ways of thinking, of perceiving, and of comprehending, and to develop more complex cognitive themes.

Individuals can revise their self-concept, their cognitive themes, by following a two-step process. First, they must identify the current framework or schemata they are using for thinking, for processing information — i.e. the self-statements and cognitive themes they use when faced with a problem situation. Second, these individuals must then relate new data from the problem situation to their concept of self, to their cognitive themes. This latter task can be achieved using the two processes of accommodation and assimilation. Individuals may either assimilate new information into the existing schemata or change the schemata to accommodate new conflicting information.

The revision of self-concept is a recurring task involving the processes of assimilation and accommodation. Each time individuals go through the process, their cognitive themes and self-statements are refined and they develop more complex ways of thinking, of comprehending. As increasingly more complex ways of thinking are developed, the individual moves closer to the goal of becoming a Balanced Self-Determined person. BSD individuals are able to develop new schemata, new cognitive themes when faced with new problem situations. The skills which are required to perform this task can be learned and are included in the Taxonomy.

4. The Very Complex skill category, Self-Management of Personal Affairs, includes those skills required to (a) react to and manage immediate problem situations and (b) plan and manage the affairs of life over the long term. The concept of short-term management or problem solving, of reacting to immediate problem situations, has always been an integral part of the Life Skills training model. The idea of long term management is new. Some ideas expressed by Bryan Hiebert during his presentation⁷ may help to clarify the role of long-term management in the Life Skills process.

Dr. Hiebert talked about three components of counselling, or of the counselling process: the counsellor's repertoire of skills, the functional outcomes expected for the client and the "linking skills". "Linking skills" are those which allow the counsellor to comprehend and manage the overall situation, to plan the appropriate approach to use with the client and to understand why a particular skill or approach is being used at a given point in the counselling process.

In the Life Skills process, Self-Management skills, in combination with Critical Thinking skills, play a role similar to that played by "Linking skills" in the counselling process. Self-management and Critical Thinking skills provide the link between an individual's repertoire of skills and the expected outcomes or results of action. Self-Management skills allow one to plan, to select, to combine and to apply the appropriate skills, while Critical Thinking skills enable one to comprehend the situation and to understand the management process.

The Complex Skill Categories

There are seventeen Complex Skill categories, grouped into the four Very Complex Skill categories. These Complex Skill categories, along with examples of corresponding Elementary skills are outlined.

Human Relations
Complex Skills

1. Use Non-Verbal & Physical Attending Behaviors
2. Use Listening Skills i.e. those skills required to receive a message
3. Use Speaking Skills i.e. those skills required to send a message
4. Interact with others i.e. those skills required to meet and interact with others
5. Use Assertiveness Skills
6. Develop Self-Awareness
7. Use Basic Literacy and Numeracy Skills

Elementary Skills

- use eye contact when speaking and listening
- paraphrase to reflect understanding of content
- use self-disclosure effectively
- introduce self to peers and non peers
- identify contemporary social conventions as language and behavior
- use assertiveness techniques (e.g. "broken record")
- give directions
- describe values, beliefs, interests which describe self
- identify influences of significant events on self-concept
- these skills are not Life Skills per se and are not included in the Taxonomy

Problem Solving
Complex Skills

1. Identify a Problem
2. Identify a Solution to a Problem
3. Implement a Solution to Solve a Problem
4. Evaluate a Plan

Elementary Skills

- ask self and others fact-finding questions
- define problem in concrete observable behavioral terms
- identify alternative courses of action
- identify and apply criteria to evaluate alternatives
- establish specific short term goals
- sequence tasks and activities
- relate consequences to actions to

assess whether actions were responsible and appropriate

*Critical Thinking
Complex Skills*

1. Process Information by Gathering Data
2. Process Information by Thinking Divergently i.e. those skills required to sort, analyse and differentiate between data
3. Process Information by Thinking Convergently i.e. those skills required to integrate data
4. Process Information to Develop Self-Concept to that of a BSD person

Elementary Skills

- recall, remember data
- record data
- defer judgement while decoding
- rank, rate, classify data by applying criteria
- recognize assumptions and inferences
- make inferences
- go beyond immediate data to predict consequences and results
- identify cognitive themes and self-statements which control thinking and behavior
- relate new data to self-concept and cognitive themes

*Self-Management
Complex Skills*

1. Proactively Manage One's Life i.e. manage life in the long term by using decision-making skills to logically and systematically plan and carry out goal-related activities
2. Reactively Manage One's Life i.e. manage immediate problem situations by selecting, combining and applying appropriate skills from skill repertoire

Elementary Skills

- plan for change
- set long-term goals and objectives
- identify new skills which will be required to achieve future goals
- set short-term goals and objectives
- use processes of assimilation and accommodation to adapt to new, immediate problem situation

Intervening Factors

There is yet another aspect of life management which must be considered. Most of us know individuals who are not successful in some respect or another, although they possess all the necessary skills — they have a complete repertoire. Why then are these people unsuccessful? What's missing? When

searching for answers, people often mention personality characteristics and attitudes as being the problem — for example, laziness or low self-confidence.

Personality characteristics and attitudes can play an important role in determining the extent to which individuals will use skills and manage their lives. Self-confidence, self-worth, enthusiasm, a sense of purpose, initiative, the will to succeed and motivation are all factors which can intervene in the management process to influence the use or non-use of skills.

These “intervening factors” play a dual role in the Life Skills process — they are mediators between the skill repertoire and the use of the skills, and they are also outcomes of successful skill use. Life Skills literature has long recognized that the successful practice and use of new skills and behaviors positively influences the development of these factors. In the Life Skills process, individuals progress towards the goal of a Balanced Self-Determined person by successfully learning and using new skills.

Since they are not skills, these factors do not appear in the Taxonomy. However, intervening factors are part of the characteristics of a BSD person and are therefore part of the goals of Life Skills training.

The role of intervening factors, in combination with management skills, in influencing the use of skills and determining an individual's approach to life management perhaps needs more emphasis. Future research intended to identify all of these factors and to clarify their role in the Life Skills process should be undertaken.

Managing a Problem Situation

Faced with a problem in a particular context area, an individual can use his management skills, mediated by positive “intervening factors”, to select and combine the appropriate skills from his repertoire to create a unique and effective solution to the problem.

An example of the way in which a Balanced Self-Determined person would cope with a specific problem may be helpful in understanding the management process. Faced with the need to perform in a job interview, an individual must use his management skills to select the necessary skills from his repertoire. Some, not all, of the relevant skills which the individual would select and combine to cope with a job interview would include:

1. Problem solving skills as:
 - ask self and others fact-finding questions — for example, “What do I wear, say, do?”
 - develop a plan describing who, what, why, where, when and how?
 - evaluate actions and behaviors (during and after interview)

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- adjust plans and actions based on evaluation.
2. Communication skills as:
 - appropriately use non-verbal and physical attending behaviors when speaking and listening
 - "use self-disclosure appropriately"
 - "listen to the words of others"
 - "identify the main ideas made by the speaker".
 3. Critical thinking skills as:
 - "recall data"
 - "translate data" (during the interview)
 - "rank, rate and classify data by applying criteria", (to judge effectiveness of own answers)
 - relate Self to the job (requires self-awareness skills as well).
 4. Interaction skills as:
 - "introduce self to peers and non-peers"
 - identify contemporary social conventions in the context of a job interview.

The fact that the individual is going to a job interview implies the presence of at least short term goals, and some "intervening factors" as a willingness to take risks and self-confidence. The specific complex skill (a unique combination of generic skills) which results in this example is the ability to "present oneself" in the context of a job interview.

Applications of the Taxonomy

There are several groups of people who can use the Taxonomy. Life Skills Coaches can use the Taxonomy to:

- a) determine the need for Life Skills training of individuals referred for training
- b) evaluate the progress of students
- c) select the skills to be taught, as well as the order in which they ought to be learned.

Students can use the Taxonomy to:

- a) identify the skills they possess and those skills which they need to acquire
- b) evaluate their progress on a training program.

Lesson Writers can use the Taxonomy to:

- a) evaluate existing lessons to determine whether they adequately address the required skills.

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- b) identify skills not included in existing lessons for which lessons must be written.

Administrators can use the Taxonomy to:

determine whether Life Skills programs are teaching the required skills.

A Final Note

The Taxonomy is to be considered a "living document", an initial draft. The author believes that as the report is read, studied and discussed, revisions will probably be necessary. Comments and suggestions regarding any aspect of the Taxonomy are invited and encouraged.

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The Third Wave in Test Evolution

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Abstract

Three periods in the evolution of standardized test development and use from 202 BC to the present are identified. It is noted that each period is followed by a wave of public comment and criticism which exerts a great influence on the direction of test evolution in the next period. Particular attention is given to the role of public concern, recent developments in test construction methodology and theory, and the increasing availability of large capacity high speed computers will play in shaping the evolution of testing in the third wave.

If we look closely at the historical developments in testing and test use since 202 BC when competitive civil service examinations were introduced in China under the Han dynasty, it becomes evident that 202 BC marks the birth of a sometimes helpful, oftentimes controversial, movement. Its evolution was painfully slow until the late nineteenth and early twentieth centuries when, as a result of significant advances in statistical methodology, the pace quickened.

In general, the evolution of the testing movement may be characterized as occurring in three phases: (a) a pioneering phase from 202 BC to 1900, (b) a boom and expansion phase from 1900 to 1960, and (c) a phase from 1960 onward in which the equality of individuals has become the prime concern. Although many books about tests and testing present a chronicle of significant events (Anastasi, 1968; Cronbach, 1970; Shertzer & Linden, 1979), or of the proliferation of tests published (Buros, 1933, 1934, 1938, 1953, 1958, 1965, 1972, 1978), it is the chronicle of public commentary and criticism of tests and testing that is of interest here. Haney (1981) has produced such a chronicle.

In his examination of the number of listings under the rubric Educational (Tests) Measurements appearing in the *Reader's Guide to Periodical Literature*, Haney (1981) identifies two major periods, the first spanning the years 1910 to 1960, and the second beginning in 1960. Graphic representation of his

findings are presented in Figure 1, which clearly shows the waxing and waning of the number of listings.

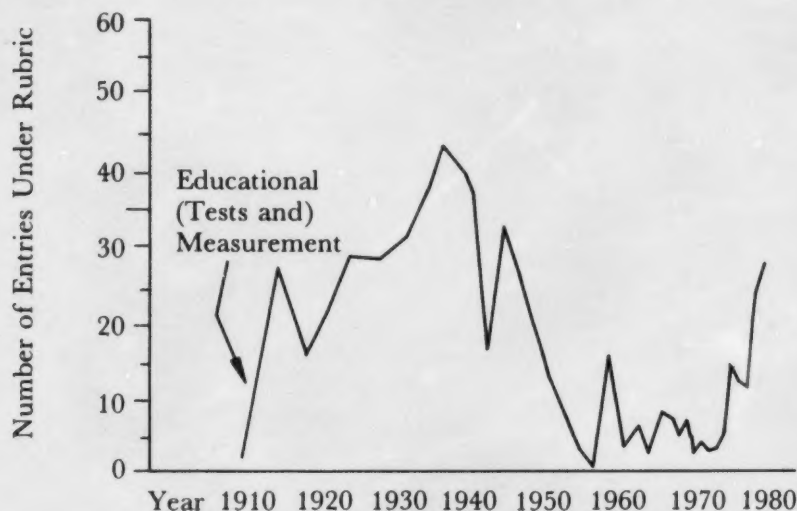


Figure 1. Average annual number of entries in *Readers' Guide to Periodical Literature* under Educational (Tests and) Measurements (Adapted from Haney, 1981).

Although the Haney (1981) chronicle only begins in the early twentieth century, it is reasonable to suppose that public concern, as manifested in the number of listings, was not very extensive until the standardized tests used for military personnel selection in World War I were widely applied in the selection of civilians for entry into vocational and normal schools, for college admission, and for predicting high school success. It can be seen in Figure 1 that even though some four million men were tested for military assignments in World War II the number of listings dropped, marking the end of a wave of commentary, which is clearly related to, if not being, a direct result of the second phase in the evolution of testing. While public concern may have shaped in some modest degree the third wave in the evolution of the testing movement, it was the launching of the Sputnik in 1957 which gave it its direction and focus — the search for academically talented children.

The importance accorded to standardized testing in pursuit of this goal resulted from the need for our industrialized society to standardize not only the products and their manufacture but also the identification and selection of qualified personnel who make those products. In such a society,

standardized tests are typically used not only to identify and weed out the supposedly unfit, they are used to establish each person's area of specialization (Toffler, 1980). Within industrialized societies, there are a multitude of specializations we call occupations. Thus, it is no accident that the United States Department of Labor and the Employment and Immigration Commission have respectively published a list of 20,000 (Dictionary of Occupational Titles, 1977) and 6,700 (Canadian Classification and Dictionary of Occupations, 1971, 1973) identifiably different occupations.

The tests and testing procedures used in the identification of talented persons and their respective specializations has its negative and controversial side. Shertzer and Linden (1979) have identified 10 of the more controversial issues: (a) Tests label and predetermine, (b) Tests are imperfect, (c) Tests are biased, (d) Tests obscure talents, (e) Tests invade privacy, (f) Tests are not interpreted, (g) Tests control schools, (h) Tests measure irrelevant skills, (i) Tests foster mechanistic decision-making, and (j) Tests encourage competition.

While Hawthorne effects are generated through the use of tests (Tests label and predetermine) and unqualified people are found to be qualified while qualified people are found to be unqualified (Tests are imperfect), no issue has received as much attention as has the debate over the degree to which intelligence is inherited (Tests are biased). The increase in the number of listings (Haney, 1981) following the assertion by Jensen (1969) that "genetic factors are strongly implicated in the average Negro-white intelligence difference" (p. 82) marked the beginning of a new wave of public concern over testing issues such as: the decline in test scores (Haney, 1981; Lerner, 1981), minimum competency testing (Haney, 1981; Lerner, 1981), testing minority group members (Cole, 1981; Olmedo, 1981), and what has come to be referred to as truth-in-testing (Haney, 1981; Robertson, 1980). Most of these concerns are associated with the use of norm-referenced standardized tests.

Such tests are designed for use "in situations where there is a constraint on the number of individuals who can be admitted [to the program] and in which some degree of selectivity is necessary" (Glaser & Nitko, 1971, p. 655). Their construction is classical and follows the steps outlined in Table 1.

TABLE 1
Steps in Norm Referenced Test Construction

1. Establish the test construction blueprint
 - identify the purpose of the test
 - identify the test content or subject matter

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- identify the weights to be applied
 - determine test length
 - establish testing time
 - specify item types
 - multiple choice
 - true-false
 - short answer
 - determine the number of items at each difficulty level
2. Prepare items which cover the content
 - content specialists check items
 - items are edited for:
 - clarity
 - brevity
 - style
 - items are screened for:
 - bias
 - offensiveness
 - items are pretested ($N = 1000 +$) to:
 - identify weak items
 - identify ineffective items
 - determine the number of items in the final test
 - determine appropriate time limits
 - determine weaknesses in instructions
 - establish item difficulty indices
 - establish item discriminative power
 - establish distractor attractiveness
 3. Assemble the test
 - ensure that content coverage is balanced
 - rank order items - easiest first
 - ensure correct option position is balanced
 - ensure that the stem of one item does not provide the response to another
 4. Establish the test administration procedures
 - uniformity of testing conditions
 - uniformity of working time
 - uniformity of instructions
 5. Establish the scoring procedures
 - machine vs hand scoring
 - instruction to clients regarding guessing

-
- type of scores obtained
 - raw scores
 - scaled scores
 - 6. Attribute meaning to scores
 - establish points of reference
 - absolute standard
 - relative standard
 - percentiles
 - standard scores
 - scaled standard scores
 - establish external referent
 - score distributions for specified groups (norms)
 - establish a procedure for equating scores
 - alternate test forms
 - administer two tests:
 - short form of original test
 - additional new items
 - 7. Provide a guide to test score interpretation

Norm referenced standardized tests constructed according to Classical Test Theory (CTT) (Green, 1981; Henrysson, 1971) greatly assisted the search for academically talented children in the post Sputnik era, but when it came to placing them in learning environments appropriate to their competencies, such tests were found to be inappropriate. Clearly then, as the feasibility of adaptive individualized instruction increases (Glaser & Nitko, 1971) so will the need for the assessment of individuals' competencies.

A type of test called a Criterion Referenced Test (CRT), which was introduced by Popham and Husek (1969) and Glaser (1963), should satisfy this need, however, it was not until recently (Hambleton, Swaminathan, Algina, & Coulson, 1978; Hambleton, Note 1) that guidelines for the construction of CRTs were put to paper. Table 2 lists these steps.

TABLE 2

Steps in Criterion Referenced Test Construction

1. Preliminary considerations
 - state the test purposes
 - specify the content areas
 - identify the groups to be assessed
 - specify the amount of time, money, and expertise required to complete the project
 - prepare a list of activities with a Time-Frame and assign staff

-
2. Prepare and review objectives
 3. Additional test planning
 - select the objectives to be measured in the test
 - determine test length
 - determine the number of items per objective
 - identify item writers
 4. Prepare and edit items measuring the objectives
 5. Assess content validity and reliability
 - content and measurement specialists assess:
 - item-objective congruence
 - technical quality of items
 - item bias
 - items are tested to:
 - detect flawed items
 - check for bias
 - determine item difficulty
 - determine item discriminative power
 - determine score consistency
 6. Revise items
 7. Assemble the test
 - determine test length
 - determine number of items per objective
 - select items
 - assess representativeness of items
 - prepare directions and practice exercises
 - prepare layouts and test booklets
 - prepare scoring keys and answer sheets
 8. Select and implement a standard setting method
 9. Assess test score reliability and validity (Compilation of test score norms is optional)
 10. Prepare test administration manual
 11. Prepare technical manual
 12. Provide for updating manuals

One of the key differences between a CRT and a NRT involves test score variability. In NRT, scores are interpreted in terms of comparisons between the person's score and those of some reference (norm) group, while in CRT a score is interpreted in terms of a performance standard involving mastery and nonmastery. A second difference involves the degree to which content is clarified, and a final difference involves how item statistics are used.

In constructing a NRT, it is essential that a heterogeneous distribution of scores be obtained, hence items whose item statistics reflect moderate difficulty and moderate-to-high discriminative power are selected. In constructing a CRT, on the other hand, the same item statistics are used to detect flawed items which are eliminated or rewritten, or in building parallel forms (Hambleton, Note 1).

While there are differences between NRTs and CRTs, it is likely that educational measurement in the future will require both (Glaser & Nitko, 1971). On the other hand, while CRTs will probably respond to most if not all of the requirements associated with minimum competence testing (Haney, 1981), it is unlikely that either CRTs or NRTs can respond successfully to the other testing issues, in particular public concern about the testing of minority groups for employment purposes, public demand for truth-in-testing, or the requirements of computerization and individualization in instruction and assessment.

Toffler (1979) has indicated that "Today's savviest businessmen . . . know how to customize (as opposed to standardize) at lowest cost, and to find ingenious ways of applying the latest technology to the individualization of products and services" (p. 254). He further states that complete customization, that is, the manufacture of one-of-a-kind products assisted by computers, can now be achieved. Consequently, just as the importance of standardization characterized the second phase in the evolution of testing so will the importance of customization and individualization characterize the third. The challenges to embark on a journey into a new frontier are to be found in United States state legislation (New York State Assembly, Note 2) and in proposed U.S. Federal legislation related to release of test items and scoring keys to persons who are tested. Canada has also provided for such an eventuality in the wording of the Guidelines for interpreting the Canadian Human Rights Act (Government of Canada, Note 3). Thus it is simply a question of time before Canadians begin demanding access to standardized test questions and scoring keys so that they can not only verify their answers but also check on the interpretations of the scores.

The technology and supporting theory to accommodate such requests without compromising what is known in testing circles as test security is currently available. By applying it, the Employment and Immigration Commission could become a world leader in this field. This theory involves the same item statistics that set NRTs apart from CRTs and the technology involved is that associated with computers. Let us look at how the application of this theory will change things.

Let us suppose that we have a standardized test which measures some characteristic or ability, and we have administered it to a single hetero-

geneous group of people. Dividing the group into below average, average, and above average ability subgroups, then plotting the results for each group will produce a set of curves which resembles those in Figure 2.

It can be seen that the average score for each group differs. The average score for Group 1 is lower than that for Group 2, which in turn is lower than that for Group 3. This is to be expected, since the original group tested represented heterogeneity of ability. Three subgroup curves are generally found because some of the test items do not assess accurately or fairly over the entire range of ability represented in the larger group.

Now let us select two tests — Test A and Test B — which measure the same ability such that the distribution of difficult items in Test B, as compared to that of Test A, makes it harder. If we then administer both tests

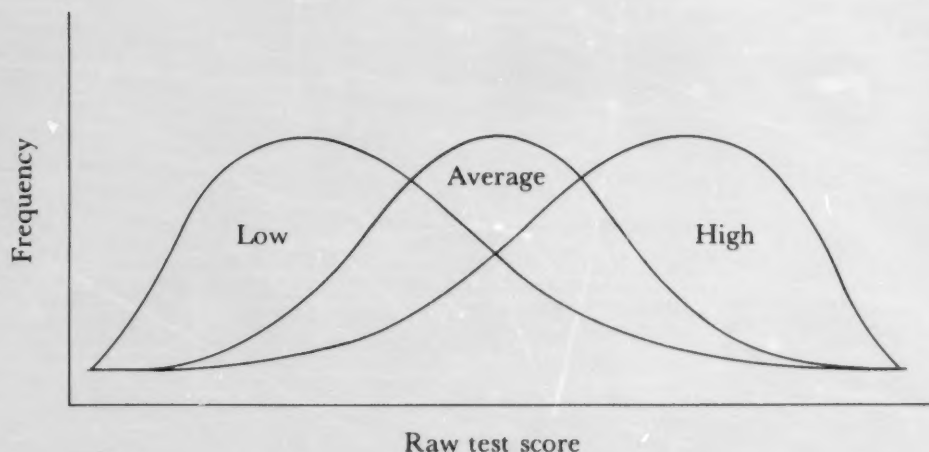


Figure 2. Score distributions for below average, average, and above average performers on a test.

to a group of people representative of a large population and plot the resulting raw test score distributions for each test, the curves will closely resemble those presented in Figure 3.

Ignoring the curve for the average group in Figure 2 and comparing the remaining curves with those in Figure 3, it can be seen that the average test score for Group 1 is low compared to that of Group 3. Similarly, the average score on Test B will be lower than that on Test A. We could then say that the

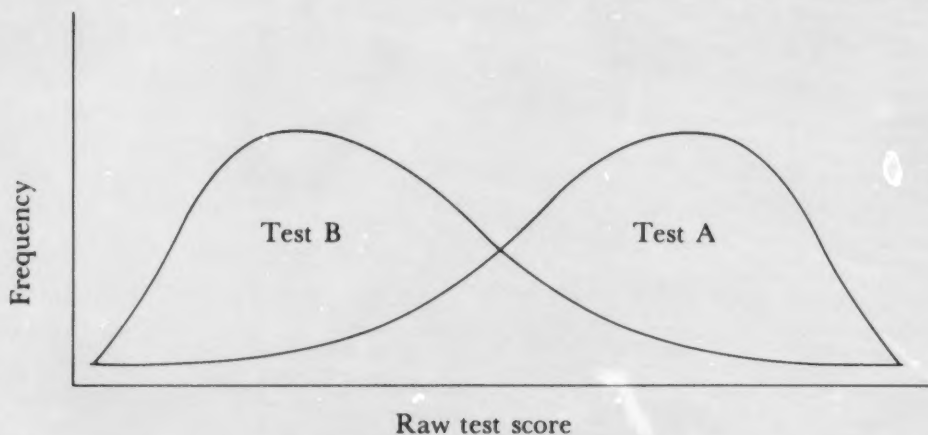


Figure 3. Score distributions of a group of persons on two tests of differing difficulty.

lower score for Group 1 shows that they found the test to be more difficult than did the people in Group 3. Since the curves for Groups 1 and 3 correspond exactly to those of Test B and Test A respectively, we can deduce that the test given to Group 1 may have been more difficult than the one given to Group 3. But this is not possible since the same test was given to both groups.

Furthermore, since the average score on Test B, which is more difficult, is lower than that on Test A, and recalling that both tests assess the same ability, one might conclude incorrectly that those tested with Test B had less ability than those tested with Test A. This conclusion is not possible either as the same people took both tests.

Two facts emerge from this discussion: (a) people's ability is invariant across nonparallel tests which assess that ability, and (b) although a test is constructed by assembling a group of items whose item statistics vary, the test as a whole can only have one index of difficulty and one index of discriminative power.

Let us return to the score distribution for Group 2 in Figure 2. If we were to establish the cumulative frequency at each level of ability, compute their corresponding cumulative percentages and plot these points, the curve shown in Figure 4 would result. (This procedure as described in Cronbach (1960) is explained with a numerical example in Appendix A.) The curve that is generated for distributions of this type is called a response characteristic curve, or when the distribution is normal, a normal ogive. It is worth noting

here that the equation of this curve is simply the integral of the equation for the normal curve (December, 1960).

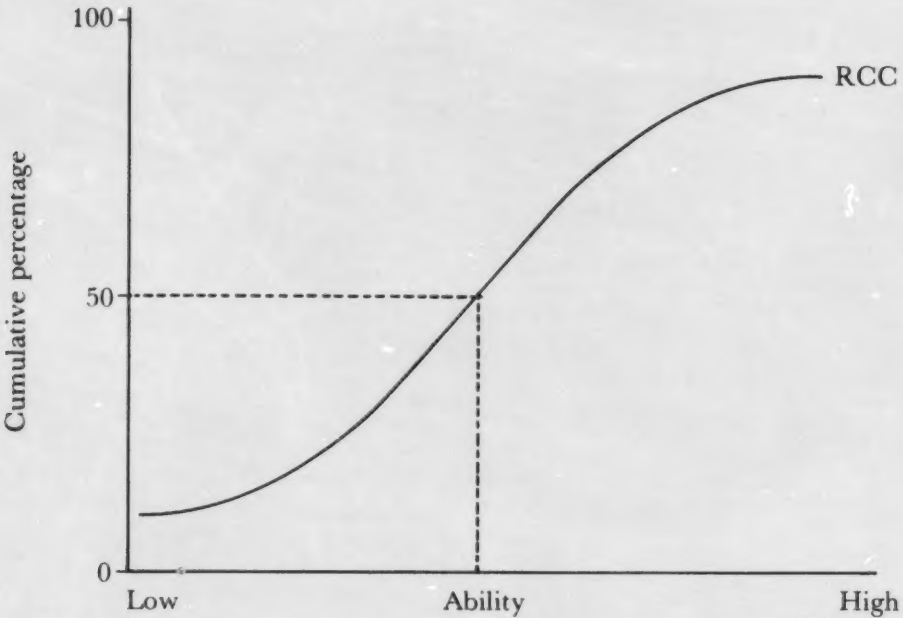


Figure 4. Response Characteristic Curve for a normally distributed population.

In CTT, test difficulty is a composite of the difficulty of each item in the test. Similarly, the test's index of discriminative power is a composite of each item's discriminative power. These test and item statistics are determined through any one of several item analysis procedures involving the raw test scores and item responses made by a group of people of differing ability.

Figure 5 represents the responses of a group ($N = 34$) of people to a test composed of 14 items. The total test score for each person is obtained by counting the number of correct responses made to each item. Scanning horizontally illustrates this fact. If, however, we scan vertically for each item, we can see that another type of score can be obtained. One such statistic is the probability of persons of a particular ability, as indicated by total test score, getting the correct response to the item. It follows that the probability of responding correctly to the item increases as a person's ability increases. If

PERSON NAME	ITEM NAME																		PERSON SCORE
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	7
2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
3	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	10
4	1	1	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	6
5	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
6	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
7	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	14
8	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
9	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
10	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	11
11	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	8
12	1	1	1	1	1	0	1	0	1	1	0	0	0	0	0	0	0	0	8
13	1	1	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	10
14	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	11
15	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	13
16	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	10
17	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0	9
18	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	11
19	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	9
20	1	1	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	11
21	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	12
22	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	12
23	1	1	1	1	1	1	1	1	1	1	0	0	1	1	0	0	0	0	12
24	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	1	0	14
25	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5
26	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
27	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	7
28	1	1	1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	10
29	1	1	1	1	1	1	0	0	1	1	1	0	0	1	0	0	0	0	10
30	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	9
31	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	10
32	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	11
33	1	1	1	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	6
34	1	1	1	1	1	1	1	1	1	1	0	1	0	1	0	0	0	0	12
35 ITEM SCORE	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3

Figure 5. Test by person matrix of responses to test items.

we compute the cumulative probability of correct responses and plot these probabilities relative to each ability level, we can then determine the ogive (normal or otherwise) which best fits the data in the scattergram. Represented graphically, the curve will assume the shape shown in Figure 6.

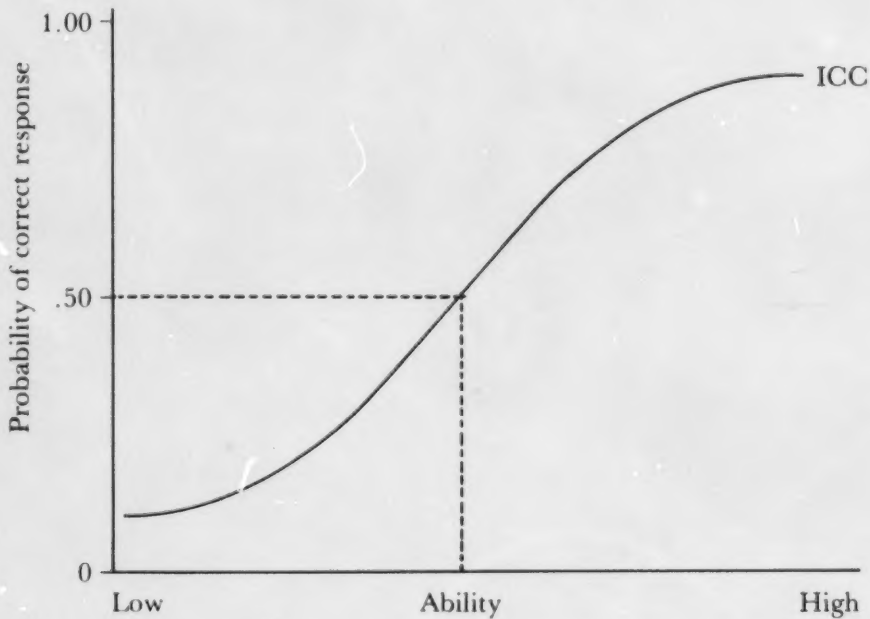


Figure 6. Best fitting ogive for item responses in Figure 5.

This type of curve, since it is based on item responses, is known as an Item Characteristic Curve (ICC) in which the slope of the curve at any ability level represents the item's discriminative power. The point on the ability scale where there is a 50% probability of success on the item represents the item's index of difficulty. Thus, "difficult items have characteristic curves that, broadly speaking, lie further to the right on the ability continuum than do the easier items. Highly discriminating items have characteristic curves that slope steeply at some point; poorly discriminating items have characteristic curves without steep slopes" (Lord, 1953, p. 521).

In our discussion of Test A and Test B score distributions, we noted that neither distribution accurately represents the shape of the distribution of the ability being tested. Since the group involved is representative of a large population of persons whose ability is normally distributed, corresponding RCCs can be drawn. Because Test B is more difficult than Test A, the RCC

is further to the right than is the latter. This relationship is shown in Figure 7.

As we have seen, the shape of the RCC is the same as the ICC, so had we been referring to an item in Test B and comparing it to an item in Test A, the

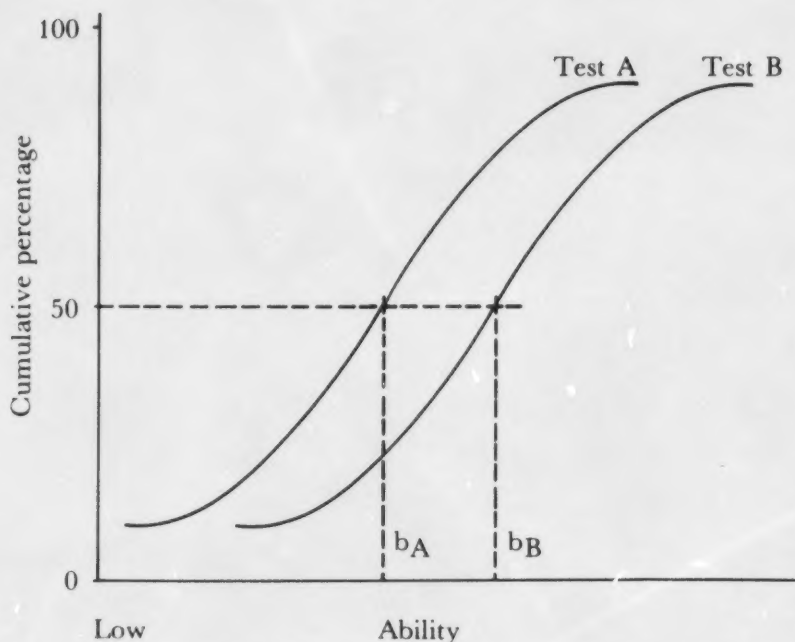


Figure 7. Response Characteristic Curves for Test A and Test B (Figure 3).

ICCs involved would differ from each other only in terms of their difficulty.

Now, if we select one item from the test administered to Groups 1 and 2 — test RCCs shown in Figure 2 — and assuming that their respective abilities are normally distributed within the segment of the population they represent, this item's ICC can be represented as shown in Figure 8. The portion of the ICC labelled a-b falls within the range of abilities of the low group and defines the probabilities of them giving a correct response. "Similarly, the probability of correct response for the high ability group corresponds to the region c-d" (Baker, 1977, p. 170). This means that if the low ability group's mean is 1.5 standard deviations below average [of the population], the location of the point on the ability scale where the probability of correct response to the item is .50 will have a value of zero for their range of abilities. Simi-

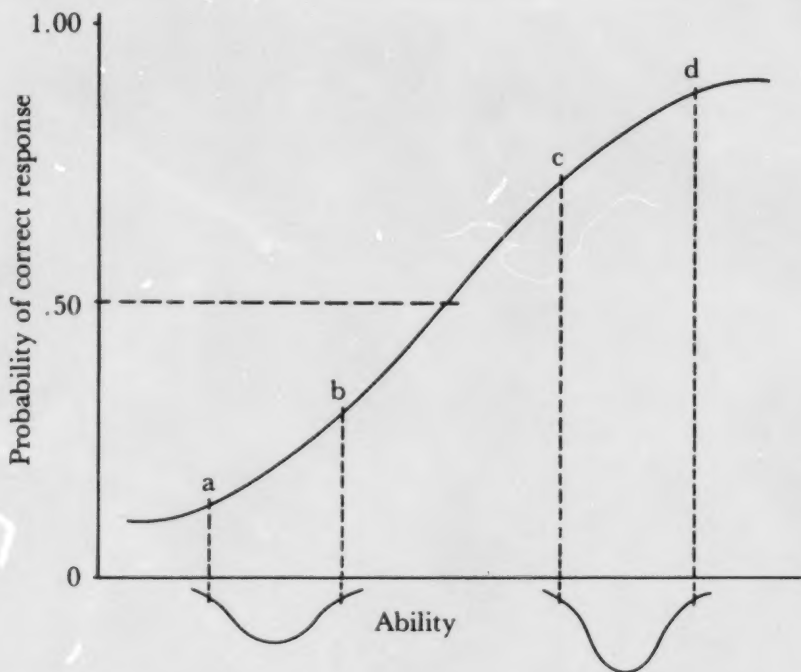


Figure 8. Portion of the ICC falling within the range of abilities for a low and high ability group.

larly, for the high ability group ($+1.5$ standard deviations) the corresponding value will also be zero. Moreover, in both cases the index of discrimination will be 1. Thus the shape of an ICC is independent of the group being tested. This is one of the basic concepts of the use of ICCs in Latent Trait Theory.

It is possible for items to have different ICCs. Figure 9 shows the hypothetical ICCs for Items A, B, and C (Henrysson, 1971).

For Items A and B, the steepness (slope) of the curves at the point of inflection is 1, whereas the point on the ability continuum for these items differs. While "these items are equivalent with respect to steepness and discriminate with equal sharpness though on different segments of the scale of the trait θ [ability]" (p. 147), Item B is more difficult. It can be seen that Items B and C differ with respect to steepness in such a way that while they are equally difficult, Item C discriminates more poorly than do either Items B or A.

It becomes apparent that being able to calibrate items (i.e., establish their discriminative and difficulty parameters) will enable test conductors to

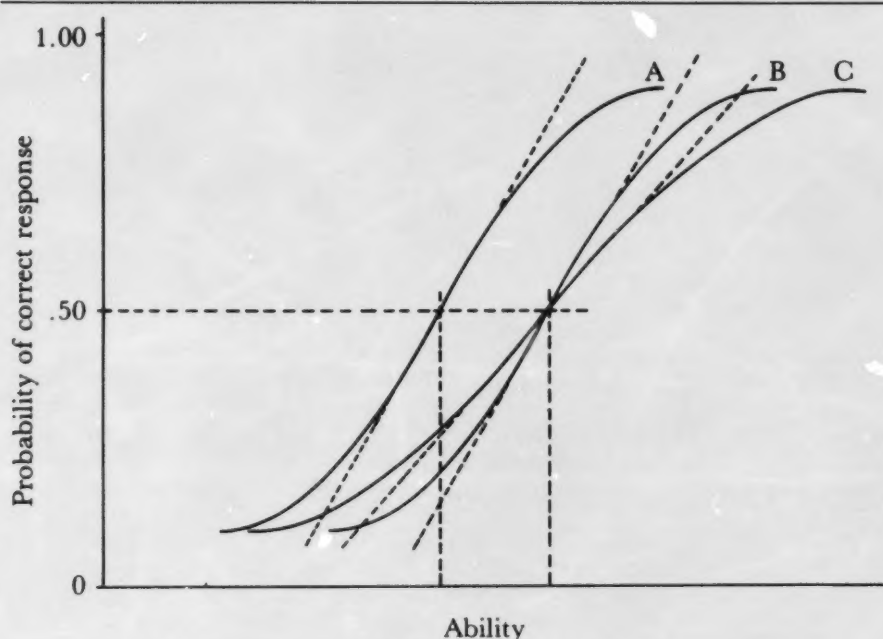


Figure 9. Hypothetical Item Characteristic Curves for three items.

generate vast pools of items each designed to assess a particular level of ability. It is possible to generate such pools of items using CTT but the items are of little value in customized testing because their parameters are unique to the group on which they were calibrated. Items calibrated by Latent Trait Theory (LTT) are not limited in this way (Hambleton et al., 1978).

With respect to test bias, which was graphically described in Figure 2, the use of LTT permits one to assemble a test using unbiased items, or items which all individuals having the same underlying ability have an equal probability of getting correct, regardless of their group membership (Pine, 1977).

However, the biggest single advantage of applied LTT lies in the administration of a test which maximally measures the ability of each individual in a group, using only test items on which the probability of each individual answering the item correctly is .50. This is not possible using a single test, so a tailored test is required (Hambleton, Swaminathan, Cook, Eignor, & Gifford, 1978).

Tailored testing, which attempts to match the difficulty of test items to the ability of the person being tested, requires the availability of a large pool of

items whose item statistics are known from which appropriate items can be drawn. Such a process requires the use of a computer to:

1. Store and present the items.
2. Predict from the person's previous responses how he/she would respond to items not yet administered.
3. Make effective use of this information to select the next item to be administered.
4. Assign a numerical score at the end of testing such that it represents the ability of the person tested.

The tailored testing process using LTT is described by Wood (1973) in the following manner:

Given some initial information concerning the person's ability, reliable or otherwise, and with the aid of a computer, present him with an item designed to effect the greatest reduction in the uncertainty about his true ability — one for which he has 50 percent chance of success — observe the outcome, and revise the estimate of his ability, upwards if he got the item right, downwards if he got it wrong. Now choose another item, with the same optimal properties as before, and continue the cycle until the uncertainty is resolved satisfactorily (p. 529).

This is, of course, a deceptively simple procedure. Its simplicity is such that the principles of tailored testing have been known since 1905 when Alfred Binet produced the first practical mental test (Cronbach, 1970). In the Thorndike (1971) description of administration procedures for individualized tests, like the Binet, many similarities to the Wood (1973) description of tailored testing can be noted:

The level at which the testing is started is determined by the individual's age and anything else that is known about his previous test performance. If the items first administered are failed, the examiner retreats to easier levels of the test, determining a floor and then advancing to a ceiling level for each examinee (Thorndike, 1971, p. 6).

It becomes more obvious now that the item calibration procedures of Latent Trait Theory, and the availability of large modern high speed computers can be of use to the CEIC in assisting employers (e.g., auto manufacturers) to decide which applicants should become clerks, which should become mechanics, which should be trained for supervisory positions, and so on. Instead of administering a long aptitude test for each proficiency involved, it is possible to establish, in very quick order by the use of a computer, those persons whose proficiencies could profitably be tested at length (Wood, 1973, p. 540). Thus, incredible efficiencies can be derived from tailoring the test to the candidate, thereby not wasting the candidates' time on items that are either too easy or too hard for them. In such a tailored

testing system "with different candidates confronting different items, the test score cannot be the number of items correct — each item must be calibrated for difficulty. In essence, candidates would score more points for answering harder questions. The scores must also be adjusted for the fact that some items are more discriminating than others. The details of such procedures are available, but not much experience has accrued yet" (Green, 1981, p. 1010).

In spite of this, the potential of using LTT as the means whereby CEIC tests are constructed should be thoroughly investigated, for it is clear that many concerns, such as those involving aptitude test bias, discriminative practices associated with the use of test information, and client right of access to psychological reports, can be accommodated within the Latent Trait Theory framework.

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Appendix A

1. Begin with the raw	37	43	27	44	27	27	26	31	35	42	50
scores (these are scores	35	43	36	26	50	47	36	26	32	32	38
of 75 ninth-grade boys	36	21	24	40	39	35	38	36	38	21	17
on Bennett Form AA).	26	35	22	18	50	30	38	50	16	45	8
	34	26	34	28	41	27	39	41	30	23	33
	22	31	36	40	54	24	22	8	33	42	41
	41	31	34	36	32	20	22	34	41		

- Identify the highest score and the lowest score. If there is a wide range, choose a class interval of 1, 2, 5, 10, 20, etc., and divide the range into classes of equal width. Fifteen or more classes are desirable.

- Tally the number of cases with each score.

- Write the number of tallies in the Frequency (f) column. Add this column to get N , the number of cases.

- Begin at the bottom of the column and add frequencies one at a time to determine the cumulative frequency, the number of cases below each division point.

- Divide the cumulative frequencies by N to determine cumulative percentages.

- Plot cumulative percentage against score. (In practice, a large sheet of graph paper would be used.)

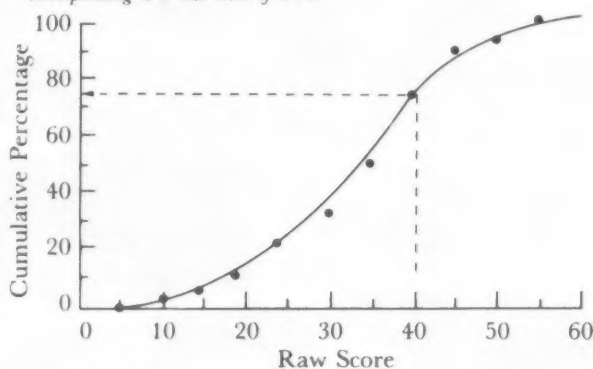
- Draw the smooth curve which best fits the points plotted.

Highest score = 54; lowest score = 8; range = 46. Class interval of 5 will be used. (A smaller interval, such as 2, would be preferable but would be inconvenient in this computing guide.)

Scores	Tallies	Frequency (f)	Cumulative Frequency	Cumulative Percent
50-54	///	5	75	100
45-49	//	2	70	93
40-44	/// /// //	12	68	90
35-39	/// /// /// //	17	56	75
30-34	/// /// ///	14	39	52
25-29	/// ///	10	25	33
20-24	/// ///	10	15	20 ^b
15-19	///	3	5 ^a	7
10-14		0	2	3
5-9	//	2	2	3
			0	0
		75		
		N		

^a 5 cases fall below 19.5; 15 below 24.5; etc.

^b 20 percent of the cases fall below 24.5; 20 is the cumulative percentage corresponding to a raw score of 24.5.



Occupational Research

Problems of Occupational Analysis and Classification

Margaret Roberts

Occupational Analysis and Classification Systems

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Introduction

I would like to discuss with you today some problems of occupational analysis and of classification structures and then tell you a bit about the research underway in conjunction with the JOBSCAN Project.

In discussing job analysis, it is probably most useful to begin by defining the terms "job" and "occupation" as serious problems have traditionally resulted from the confusion of these two terms. A job is a position that someone holds at a particular establishment. The Canadian Classification and Dictionary of Occupations (CCDO) defines an occupation as a number of jobs which have the same basic duties/tasks though the duties may vary slightly and they may be found in different establishments or industries. I am sure you are all aware that the CCDO is a classification of occupations, not of jobs. Occupational descriptions are normally the synthesis of a number of studies of specific jobs usually having the same title or at the least, almost identical duties. Job analysis is normally performed by the interview-observation method, an approach which has many faults, as I will discuss later.

Any given set of occupations can be fitted into a number of traditional classification systems devised to meet different needs. Standard occupational classification systems have been devised for the most part, on some form of commonality of function. The CCDO is a prime example of this type of approach. The basic principle of classification in the CCDO is the type of work performed-tempered by other factors such as materials or equipment used, services rendered and relationship to other workers. Hence we find some major groups based purely on work performed, e.g. Major Group 83 - Machining, and others based on an industry designation such as Forestry and Logging. A more pure example of classification based on function is found in the American SOC where major divisions are based on such titles as

Precision Production Occupations, and Machine Setup Operators. Machine Setup Operators are broken down at the lowest level into functional categories such as Milling and Planing Machine Setup Operators, Punching and Shearing Machine Setup Operators, Rolling Machine Setup Operators, etc.

Many other principles have been used to classify occupations. For example, Holland uses psychological or sociological constructs, others use industry classification such as SJC, a variation of which is used to modify CCDO 7 digit codes. Interestingly, the CCDO 7 digit codes have been assigned to various classification systems which in effect allows for multi-classification; i.e. it is possible to sort CCDO codes according to industry designations, Holland Codes, work fields (a broad functional approach consisting of 298 groups) and a standard classification on the basis of Data, People, Things, or any of the interests or temperament factors found in the CCDO. Given this variety for classifying the 7,400 occupational definitions now in the CCDO, you might wonder what more we could be looking for.

The major problem with occupational definitions is two fold:

1. The problem of drawing the line between an occupation and a job has never been satisfactorily resolved. Ample evidence of this problem can be found by a quick look at Major Groups 81/82 and 85. While I am certain that no one here would defend the title "Glove Pairer" as representative of an occupation, it is not so easy to decide upon or devise an appropriate occupation of which this job might be an example. On a broader scope it is questionable whether the concept of occupation has any real meaning in the context of many semi-skilled and labouring jobs.

2. The actual method of collecting job analysis data is questionable. One must first decide to study an occupation. The very fact of doing so amounts to an a priori decision about the legitimacy of the occupation itself. Further, when jobs that have been identified as falling into this predetermined category are studied using an observation-interview method, comparability of results is not always possible. There is no way of objectively knowing, after the fact, if the jobs are identical, similar or whatever. We only know whether they appear to be similar or not. After the occupational definitions are written, differences are impossible to trace. For example, the CCDO definition of an Aerospace Engineer mentions preparing cost estimates while that of Nuclear Engineer does not. Given the methodology used to arrive at these occupational definitions we are at a loss to know if this apparent difference is real or simply an inconsistency of the system, that is, whether the interviewer asked the Nuclear Engineer if she prepared cost estimates.

With classification I can identify three problems.

1. The classification structures are themselves intellectual constructs not

derived from empirical data (Holland's being a possible exception);

2. The occupations have been assigned to the structures based on analytical rather than empirical evidence; and

3. All occupational description and classification systems have been based on the assumption that it is appropriate to deal with all occupations in the same way, i.e. using the same means and methods for description and classification. A cookie cutter approach is applied to the entire world of work. It is decided in advance what we are looking for and how we are going to describe it.

JOBSCAN

This brings me to my major topic, the JOBSCAN Project. In our research for JOBSCAN we have become all too familiar with the problems outlined above. As you are aware, the CCDO is the standard document used by the Commission for job matching, immigrant selection, labour market forecasting, unemployment insurance control, employment counselling, and assessment of training time requirements for particular occupations.

JOBSCAN is being developed to provide the data base for a computer assisted job placement system which will also have applications in the administration of Unemployment Insurance, Immigration, training, labour market forecasting and occupational research itself.

Our first concern was that of placement. Placement problems exist with all structured occupational classification systems, including the CCDO. Jobs do not necessarily, in fact rarely, fit predetermined structures, and most clients can be assigned several occupational codes. For practical reasons, a client is usually coded to one occupation only. Hence clients may be deprived of being referred to all the jobs they could perform. There is a need, therefore, to be able to search all job possibilities for each client, and every worker possibility for each vacant job, irrespective of classification structure. Fixed occupational systems such as the CCDO in Canada, CODOT in the U.K. and DOT in the United States cannot define precisely the needs of an employer or the personal work experience and training of a job seeker.

In developing JOBSCAN to overcome the shortcomings of manual job matching systems, it was decided that a comprehensive computerized system dependent on a data base applicable to all occupations and job seekers must be developed. The system is being developed to accommodate the unique needs of different levels and sectors of the labour market. It is based on the premise that job placement in these different sectors are made on the basis of a variety of types of factors.

The task of JOBSCAN, then, has been to determine the factors which are

significant for placement in any given industry or groups of jobs, and then to find a way to profile all a worker is able and willing to do and to identify in identical terms, all job order requirements. This is accomplished through the use of checklists for different clusters of occupations.

Care has been taken not to impose any predetermined structure but rather to go directly to industry and consequently develop a structure that as nearly as possible reflects that of the industry or group of jobs. For this reason JOBSCAN has not been developed from the CCDO. The CCDO started with a predetermined structure which was applied to the entire world of work. JOBSCAN on the other hand represents an entirely new occupational data base made up of Significant Placement Variables (SPVs) which can be defined as discrete units of information which an employer may use in making a placement decision. These SPVs are organized to reflect the structure found in a particular industry or occupational group. The majority of the factors are technical skills, while the remainder are made up of a variety of elements such as legal requirements, physical demands, hours of work, salary, etc. A system of occupational checklists has been utilized as the means of collecting and organizing these factors.

In developing JOBSCAN checklists, preliminary research is undertaken to identify groups of clusters of occupations that might be suitable for similar treatment. The first step is normally an extensive examination of existing trade, career and training literature available in the chosen area. This is followed by interviews with employers, union officials, training institutions, and CEC officials to determine scope, content and organization of the checklist. After the first draft is completed and reviewed internally, it is validated with the same groups of individuals. Usually, the persons consulted on the first set of interviews are asked for feedback and renewed input. After refinement as a result of industry comment, the checklists are validated nationally with large numbers of employers, and finally submitted to a CEC manual test.

Occupational Analysis

As part of the necessary process of testing the job matching capability of JOBSCAN, an automated test of the system was conducted in Regina in September 1980. All clerical occupations were included on one checklist. Clients and job orders were profiled using JOBSCAN checklists and assigned a CCDO code as well. As part of our evaluation of the project, it was decided to compare CCDO based shortlists of clients for a particular code with shortlists produced by JOBSCAN for identically coded job orders. Three common clerical jobs were used as the basis, Secretary 4111-110; Clerk Typist,

4113-124 and Office Clerk, 4197-114.

A shortlist of clients coded to Secretary, 4111-110 was generated. It provided four clients. JOBSCAN shortlists were generated for six separate job orders which had been coded to Secretary. These shortlists were based on specific employer demands. The size of the shortlists ranged from 12 clients to 1 and no two shortlists were identical. Only one person coded to "Secretary" appeared on any of the lists. Similar results were produced when each of the other codes were dealt with in the same way.

While we were convinced in advance that job titles and codes are restrictive even we were surprised at the *extent* to which the titles were ambiguous and were acting as artificial boundaries.

We came, I think, to the obvious conclusion that we should take another look at clerical occupations and see if we could use the checklist as a job analysis instrument to empirically determine meaningful job clusters. We proceeded to study almost 300 clerical jobs. We asked the question: "What activities do you perform in this job?"

Our objective was to find out if there really is any consensus about what a secretary does, a clerk typist does, a stenographer does etc. This data has not been subjected to a thorough analysis but even initial results are interesting.

- A set of core skills common to most clerical occupations did appear to emerge.
- Overall — there was no general agreement between job titles and work performed.
- Only one person titled stenographer could be found. The duties performed were similar to those of secretaries and clerk typists.
- Eight out of thirty secretaries surveyed did bookkeeping.

A similar study of the Food Service industry produced different results. Here there does seem to be a consensus about certain occupations for example, waiter/waitress.

All of this is very exciting for us — as we now have the capability of testing the meaning of conventional job titles. We can see the possibility for developing occupational clusters or job families based on empirical evidence of commonality of work performed.

Labour Market Forecasting

Another application of JOBSCAN to research is that of Labour Market Forecasting. Information used for labour market forecasting in Canada has been based on 4 digit CCDO aggregates — not without a number of problems.

1. 4 digit CCDO unit groups are not homogeneous. Hence you will find Chefs and Cooks in the same unit group and it is impossible to separate the

two. Similar problems exist in the trades — Carpenters — Apprentices and Carpenters' Helpers were originally classified together. An extreme example is Unit Group 8155 which includes craft potters, glass blowers, plaster board machine operators and "Laundry Tub Makers".

2. A second major problem is that of coding. This relates to the problem mentioned previously about the reliance on the probably mistaken notion that there is some general agreement about what constitutes a particular occupation.

Take the case of underground mining. Job titles are particularly loose and most experienced miners can do any number of underground jobs. A worker or employer might refer to an individual as "Miner, All round", or a "Mucking Machine Operator" or any number of other titles. Trying to develop meaningful forecasts using ambiguous titles is simply misleading. The problem is further compounded when one considers that most of the people in the group are relatively interchangeable. Workers come into the mining industry as unskilled workers and gradually progress to more highly skilled jobs. Even if one knows that there will be a need for 50 more drill operators in 2 years in Ontario, this is not particularly meaningful since direct recruitment is usually impossible because of union agreements.

This brings us back to a point made previously about classification systems and the inherent assumption that it is appropriate to look at all types of occupations using the same construct.

I think what we are finding is that different approaches are appropriate for different kinds of occupations.

For example, the highly skilled or regulated occupations can probably be meaningfully talked about in terms of occupation and specializations. e.g. engineers. The same approach is probably reasonable for the apprenticeable trades.

However, for clerical workers, a functional approach may be more appropriate. e.g. Occupations requiring typing

Occupations requiring bookkeeping, etc.

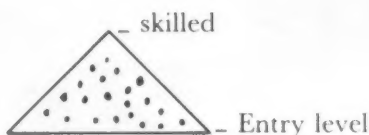
For manufacturing, processing, and many extractive occupations such as mining and logging perhaps an industry approach may be more meaningful. If for example, inspectors are simply part of the normal complement of factory workers, with little in common with one another, what sense is there in looking at them as a separate group? For the most part, in these areas, excluding of course the tradesmen involved in these industries, workers start as labourers and progress up the ladder. There is little point in trying to compare cross-industry because mobility is negligible. A functional approach is purely academic.

For that matter, there is little point in suggesting to a client that they have

the interests and aptitudes appropriate for a Rolling Attendant (8135-110) or a Quenching Unit Operator. Such titles are essentially meaningless in the context of career choices. Rapid technological change makes in-depth industrial surveys of jobs even less useful. Comparability between plants is often low. What would seem more reasonable in these areas is to develop industrial profiles which outline such things as general mobility patterns, salaries, etc. for the industry as a whole and to forget about the concept of occupation as we know it.

So what we might end up with in terms of classification are:

- some homogeneous groups based on established occupational clusters.
i.e. School Teachers. Carpenters
- some homogeneous groups based on skills. i.e. typing
and some heterogeneous groups based on industry. e.g. forest products processing work.



I think this approach would have tremendous implications for employment counselling as well as for labour market forecasting.

While these aspects of this project are in the infancy stage, we are hopeful that by using a flexible and pragmatic approach based on empirical data we will be able to arrive at some new ways of looking at the world of work which will allow others, whose work is dependent on what we provide, a new and more meaningful base from which to proceed.